Addressable Advertising

An inquiry into targeting individuals using RFID
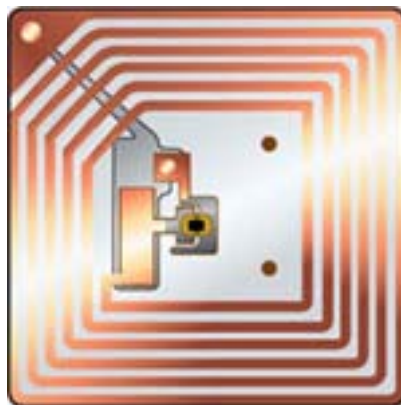
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Phase 3: Future Developments and Opportunities

Unit 5: Major Project: Production, Validation & Defence (CMP A5)

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A philosophical and ethical investigation and analysis into the rise of Radio Frequency Identification (RFID) and specifically its uses within an advertising context in order to target individuals with tailored, timely and relevant brand messages across the full media spectrum. This document will investigate the socio-political dilemma and investigate intervention in light of privacy concerns.

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Introduction

The fire that warms can also burn; 'Better a small fire that warms you than a big one that burns you.' French Proverb.

We are moving into an era of targeted advertising – delivering the right message at the right time. The logical conclusion of all targeted advertising is that technology will facilitate a highly addressable and personalised message to an individual or group of individuals, in order to produce a suitable response required by the advertiser. It is about tying an individual to data collated on their previous consumer behaviours and/or purchase habits and then delivering a sequenced message, taking the nature of predictive 'suggestions' used on web sites like Amazon and iTunes and moving this concept into online display advertising. It is about piquing interest through relevance and delivering the necessary information for which a consumer can make an informed choice, in an environment they are comfortable inhabiting.

The utopia of such addressable advertising is taking the concept even further across an entire range of electronic displays in the home, shopping malls or on the street, etc., and determine where and when a consumer is in front of any given screen to deliver the correct message.

> *'A smiling Gap employee appears on a giant flat-screen monitor just inside the store, greeting customers as they walk in. "Good afternoon, Mr. Yakamoto," she says, loudly and cheerily. "How did you like that three-pack of tank tops you bought last time you were in?"'*[1]

The proximity of a person to such a device – from TV to Out of Home (OOH) – will not be determined by line of sight readers such as retina scans, as shown in the film starring Tom Cruise, but rather by utilising Near Field Communications (NFC) and specifically, Radio Frequency Identification (RFID), which has already been trialled in a number of locations globally. This has been afforded as a result of a rise of mobile devices from key-fobs and ID/credit cards to phones and PDA's adopting RFID capabilities. Given sufficient infrastructure and coupled with the correctly sequenced message delivered in real-time to the correct device, this most advanced form of targeting will create maximum efficiency in advertising spend by reducing wastage across all media disciplines.

Despite manufacturer adoption and sufficient technological rollout, this is opening a can of worms from an ethical and moral perspective and it is this area specifically that my research is focussed in on. To some it creates a highly volatile reaction to the invasiveness of personal privacy and assault on the fabric of human identity. To others it's a mere natural technological progression that affords usability, insights and accountability par none. Can technology and progress be halted or indeed,

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[1] Quotation taken from *Minority Report*. 2002. 20th Century Fox Film Corporation.

should it? Should we place a stake in the ground, heed the warnings and say 'thus far and no further' in a Neo-Luddite fashion, or similarly, should we wholeheartedly embrace the bright optimism of the technophiles who march forth into digital dreamland with no thought of consequence?

The questions I want to ask pertain to 'just because we can, does it mean we should?' Even if the answer is yes, assuming the genie is already well out of the bottle, under what circumstances should we pursue this and can an ethical framework be established in which to operate?

In terms of researching such questions it is impossible to use techniques like action-inquiry process to test validity and refine as necessary and so we will need to rely on more qualitative data and take a more epistemological approach to tackle knowledge through the balance of truth and beliefs.

"Man is the only creature that dares to light a fire and live with it. The reason? Because he alone has learned to put it out." Henry Jackson Vandyke, Jr.

Digital Creep

We are witnessing an entire shift in media as digital permeates the media landscape in the same way ivy creeps across any garden. It is now near impossible to buy camera films in most areas of the world and music stores globally are closing down as they have consumers move to MP3 digital equivalents. The analogue to digital handover on TV is well under way[2] in and access to television content is shifting from the street through handheld devices or car installations. Home media devices from gaming consoles to BluRay players and televisions, even digital photo frames are taking direct Internet connections.[3] Mobile phone adoption grew 48% to 3.9Bn in 2008 and is expected to be 5.9Bn in 2012 as the number of handsets eclipses the combined total of PC and televisions on the planet. One million of those subscribers will be on 4G WiMax mobile broadband,[4] with practically the same amount accessing social media through their phones.[5] Digital screens are appearing across the landscape from post-offices and department stores to subway stations and airports, from the side of buses and the back of taxis to fixed or moving billboards on streets and waterways. They are growing at 33% per year[6] and estimates suggest by 2012, 10% of all billboards in Europe will be digital.[7]

[2] BBC News, *BBC to help pensioners go digital*, 16 November 2006. *Available at:* http://news.bbc.co.uk/2/hi/entertainment/6155518.stm
[3] ABI Research, *Next Generation Connected Home Devices (Fourth Screen)*, 1 August 2009. *Available at:* http://www.abiresearch.com/research/1004498-Next+Generation+Connected+Home+Devices+(Fourth+Screen)
[4] Williams, I. *Mobile broadband users to pass 1bn by 2012 say analysts*, 9 August 2007. *Available at:* http://www.v3.co.uk/vnunet/news/2196327/mobile-broadband-users-pass-1bn-2012
[5] *Information gleaned from:* http://www.emarketer.com/Report.aspx?code=emarketer_2000489
[6] Aun, F.J. *Digital Signage Growth Boosted by Cheap Hardware, Restrained by Security Costs*, 11 March 2009. *Available at:* http://www.storefrontbacktalk.com/securityfraud/digital-signage-growth-boosted-by-cheap-hardware-restrained-by-security-costs

The next wave in media development will see will be in electronic print devices as *Amazon Kindle* and *Sony eReaders* are followed by *PlasticLogic* and *Apple's* venture in ePrint bringing magazines and newspapers into a dynamic environment using a more natural consumer device which has caught the attention of people like Rupert Murdoch.[8] According to an US study that has monitored consumer habits online for the last eight years spanning 23 countries, Jeffrey Cole, Director of Center for the Digital Future stated, "we're clearly now seeing a path to the end of the printed daily newspapers – a trend that is escalating much faster than we had anticipated."[9] He expects the 800 US newspapers to be down to five by 2012 as advertising dollars shift away from print.

Following on from the growth of consumer demand for sharing content through social media, and backed by any given number of Internet connected devices a person may now use, is seeing a move by leading computer OS (Operating System) developers[10] or hardware manufacturers push to move things from a local hard drive to a storage centres online. It sees a mind shift in the web not just for storage and access of pages of information but also for moving all media and content to data centres in order for searchable access anywhere, as well as moving the core processing power to the server meaning the demands of the access device can be less. With *Cloud Computing* accessing files and running software across a multitude of devices and locations across the globe is becoming a reality.[11]

We are moving from *time shifting* (accessing content at a time that is convenient) to *place shifting* (accessing content in a location that is convenient). Should I wish to watch my recorded TV content from UK's X-Factor whilst sitting in a hotel in Hamburg or Shanghai, devices like *SlingBox*[12] already make this possible, sharing home media to your laptop or mobile remotely. Similarly we have to understand if I am watching streamed UK content whilst travelling abroad, of what relevance is local advertising in either German or Chinese to me, neither of which I speak? 88% of marketing directors anticipate behavioural targeting to be an important capability by 2010, especially on a mobile phone where personal data is more readily available.[13] Whether on computer desktop or mobile device, software applications like *Spotify*[14] are already linking music access and targeted advertising

[7] *Information gleaned from:*
http://www.screendigest.com/reports/08digitalsignageeurope/pdf/08DigitalSignageEurope-pdf/view.html
[8] Silver, J. *Can Rupert Murdoch save online news?*, 30 June 2009. *Available at:* http://www.wired.co.uk/wired-magazine/archive/2009/08/start/can-murdoch-save-online-news.aspx
[9] Cole, J. *Annual Internet Survey by the Center for the Digital Future Finds Large Increases in Use of Online Newspapers*. 28 April 2009. *Available at:*
http://www.digitalcenter.org/pdf/2009_Digital_Future_Project_Release_Highlights.pdf
[10] *Information gleaned from:* http://www.microsoft.com/windowsazure/
[11] Intel, *Single-chip Cloud Computer*, 1 December 2009. *Available at:*
http://techresearch.intel.com/articles/Tera-Scale/1826.htm
[12] *Information gleaned from:* http://www.slingbox.com/
[13] Cellular News, *Brands Set to Treble Spend on Mobile Marketing by 2013*, 9 October 2008. *Available at:*
http://www.cellular-news.com/story/34048.php
[14] *Information gleaned from:* https://www.spotify.com/blog/archives/2008/07/31/ads-in-spotify/

together, similarly *Invidi*[15] is doing the same for television. Addressable advertising, therefore, is not contained to mere web banners; it is any media placement that is touched by a digital connection.

A global study in 2009 by TNS showed an active desire amongst 400 senior marketers to address cross-channel marketing. It is about seeing any given campaign as holistic across all media and simultaneously driving impact and results. It is breaking down the online offline divide and seeing integrated activity at having the most impact on consumers, as the prestigious global Cannes Lions *Titanium* award winners now illustrates.[16] 67% of all campaigns are now considered cross-channel yet only 12% are being analysed as such.[17] It highlights the need to monitor consumer behaviour through the linking together of search and display advertising and then seeing this connectivity shift across devices. Looking across mediums, what is clear from the data is there are three stages of cross channel integration where respondents show a real hunger to integrate media channels.

- **Phase 1:** Connecting display with search in a computer environment
  – 51% currently are analyzing cross channel data – 38% would like to
  This shows a need to see integrated consumer behaviour online understanding traditional behaviours and advertising models.

- **Phase 2:** 3-screen (PC, TV, Mobile) approach beginning to resonate
  – 22% currently analyze TV with PC or PC and mobile – 62% would like to
  This shows a need to analyse multi-access to the Internet across devices as equal to seeing TV advertising driving search on laptops in the home.

- **Phase 3:** TV to mobile and outdoor to mobile is huge area for growth
  – 7-8% currently analyze across TV, outdoor and mobile – 65% would like to
  This is seeing activity in home moving towards mobile search away from laptop whilst watching TV or in terms of out of home display ads driving mobile search on the street, or even direct access to mobile through point-and-click methods like QR (Quick Response) codes on print media.

As media overlaps and interconnects it is natural to explore the advantages of understanding consumer behaviour and leveraging these insights from a commercial standpoint in order to better resonate with the end user better. Insights afforded by technology influence product development for more useful devices to make our lives easier, drive content development for entertainment and

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[15] *Information gleaned from:* http://www.invidi.com/pages/itc_invidiads.html
[16] *Information gleaned from:* http://www.canneslions.com/enter/categories.cfm
[17] O'Malley, Gavin. *Study: CMOs Want More Cross-Channel Data*. 15 June 2009. *Available at:* http://www.mediapost.com/publications/?fa=Articles.showArticle&art_aid=107860

information purposes as well as highlighting ways of finding more natural ways of exposing the end user to new products or content and facilitating two-way relationships with the developers.

The new digital landscape

Technology is moving at blistering and unprecedented speeds. It is getting smaller and more powerful and more intimately connected and in turn offers a radical rethink in what we have come to know as *computing*. One of the key technologies at the helm of driving this change is RFID.

What is RFID

Radio Frequency Identification (RFID) are wireless, networkable, speck-of-dust-sized microcomputers used to automate *perception*.[18] It is an electronic tagging technology, which allows objects, places, animals or people to communicate their position and other information constantly in a vast network. It allows the tagged items to be automatically and precisely identified at a distance without a direct line-of-sight, using Near Field Communication (NFC) via electromagnetic fields.[19] Invisible to the most part, it allows everyday objects to become searchable and traceable. RFID is also known as *'smart'* chips / tags or radio barcodes[20] and have been dubbed *'spychips'* by privacy activists.[21] Though tracing roots back as far as the Second World War,[22] when deployed by the Royal Air Force and since then has been shrinking in size and cost.[23] It is generally acknowledged that the present form has been around for over three decades. RFID was originally developed in the 1970's, but was deemed too expensive and limited until fairly recently.

The turning point came in 1997 when Kevin Ashton, a brand manager at Proctor & Gamble, became interested in the possibilities of RFID to help manage P&G's supply chain. He had realised that although stores had plenty of inventory, the products were making it onto shelves consistently but had no idea why.[24] Ashton saw RFID a possible solution, despite the technology then being relatively large and cumbersome. Working with professors Sanjay Sarma and Sunny Siu and researcher David Brock at the Massachusetts Institute of Technology (MIT) they set about trying to find a way of utilising this technology to solve the problem for P&G.[25] In 1999 the set up the Automatic Identification Center (Auto-ID) for continued research into RFID and traditional barcodes, in order to

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[18] *Information gleaned from:* http://www.leighbureau.com/speaker.asp?id=278
[19] Want, W. "The Magic of RFID," *Queue* (ACM) 2, no. 7 (October 2004): 40-48.
[20] Progressive Grocer, *Tesco Trials New Technology With IBM to Improve Product Availability for Shoppers*, 16 October 2003. *Available at:* http://www.allbusiness.com/retail-trade/food-stores/4255857-1.html
[21] *For more information see* http://www.spychips.com
[22] RFID Journal LLC, *General RFID Information*, 1 June 2009. *Available at:* http://www.aimglobal.org/technologies/rfid/rfid_faqs.asp
[23] Dodson, S. *The internet of things*, 9 October 2003. *Available at:* http://www.guardian.co.uk/technology/2003/oct/09/shopping.newmedia
[24] *Supra note* 18
[25] *Information gleaned from:* http://connect.in.com/kevin-ashton/biography-163695.html

develop an open source system to connect all physical objects to the global Internet and in turn form an 'intelligent infrastructure.'[26] The prime goal of Auto-ID was to create a global open standard system to put RFID everywhere.

RFID consists of two parts, and Integrated circuit (IC) for storing and processing information and an antenna. The IC can be read only or can equally be read-write to and from its onboard diskless storage. In this regard it really is a tiny microcomputer with wireless networking capabilities, and not just a tracking tag. RFID can broadly be broken into two categories: active and passive. Active tags are powered by a battery and have a transmitter that can broadcast to longer read ranges of up to 300ft (100m),[27] where as passive tags do not have a battery and merely reacts in the presence of a reader which in turn switches the device on by powering the IC. Most passive RFID tags can only send back a signal a couple of inches (5cm), though some can reach a maximum of 30 feet (10m).[28] Powering up passive RFID is shown in an ePassport prototype, which turns on an OLED screen embedded in an ID card in proximity of a reader.[29]

As technology continues to advance, both physical size is shrinking to dust-like proportions[30] whilst read distance is ever increasing. We are now seeing extreme long-range second generation passive tags that can be read as far away as 600 feet (182m) away, cover 250,000 square feet (76,200m) of area, and pinpoint tag location in 3D.[31] Other iterations are human-implantable RFID tags,[32] and intelligent computable CRFID,[33] printable *Silver Ink*[34] and chipless RFID Ink[35] to name a few. Though mobile phones in Japan have had RFID readers for some time with the ability to pay for items via waving their phones,[36] it seems now set that in the West we too can expect an influx in this

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[26] Borriello, G. "RFID: tagging the world," *Communications of the ACM*. 48, no. 9 (September 2005): 34-37.
[27] *Supra note* 22
[28] Frenzel, L.E. *UHF RFID Chip Extends Reading Range To 10 Meters*, 15 November 2004. *Available at:* http://electronicdesign.com/Articles/Index.cfm?AD=1&ArticleID=9002
[29] OLEDInfo, *More details on Samsung's OLED e-passort prototype*, 19 June 2009, http://www.oled-info.com/more-details-samsungs-oled-e-passort-prototype
[30] Sanke, F. *Hitachi develops RFID powder*, 14 February 2007, *Available at:* http://pinktentacle.com/2007/02/hitachi-develops-rfid-powder
[31] Burnell, J. *Startup Touts 600-foot Read Range for Passive RFID*, 14 April 2008. *Available at:* http://www.rfidupdate.com/articles/index.php?id=1583
[32] *More information available at:* http://www.verichipcorp.com/about_us.html
[33] Kleiner, K. *RFID tags get an intelligence upgrade*, 14 August 2009, *Available at:* http://www.newscientist.com/article/dn17616-rfid-tags-get-an-intelligence-upgrade.html?DCMP=OTC-rss&nsref=online-news
[34] Takahashi, D. *Xerox develops silver ink for wearable or throwaway electronics*, 26 October 2009, *Available at:* http://digital.venturebeat.com/2009/10/26/xerox-developers-a-silver-ink-that-can-be-used-to-wearable-or-throwaway-electronics
[35] *More information available at:* http://somarkinnovations.com/technology/
[36] Akiyama, T. *Gyazapo RFID phones to carry loyalty points from 100 stores*, 23 February 2009. *Available at:* http://www.digitalworldtokyo.com/index.php/digital_tokyo/articles/gyazapo_rfid_phones_to_carry_loyalty_points_from_100_stores

technology,[37] as Sony Ericsson,[38] Nokia and Apple[39] plan to implement inbuilt RFID readers – and can already be done via externally linked devices.[40]

The global market for RFID tags is growing at 5% in 2009 to US$5.56 billion,[41] with 2.35 billion tags sold in 2009 versus 1.97 billion in 2008. The growth is expected to rise to 28% in between 2010-2013 reaching $26.2bn by 2016 partly driven through transportation, government applications and attached to consumer-packaged goods. [42]200 Million RFID tags will be used on apparel in 2009 rising to 833 Million in 2012 covering companies from Wal-Mart and The Gap to Tesco and Marks & Spencers. 'Hundreds of organisations are now using RFID on or in apparel including shoes and uniforms, baby clothes and industrial laundry… the largest use is in or on the item of clothing itself, whether by a stitched-in cloth tag or a paper swing tag,'[43] and includes Prada, Armani, Dolce and Gabbana, Benetton and Levi Strauss among the adopters to date.[44]

Traditional uses include; tracking of assets such as pallets and cases in supply chains;[45] the tagging and tracking animal inventory whether wild,[46] livestock (now mandatory in certain territories) to domestic pets; baggage handling at airports such as Hong Kong International; entry systems to buildings, such as hotel rooms, garages or vehicle entry; transport networks, e.g. eVehicle license plates in Japan, DART car toll roads in France or OysterCard public transport in London (and 70 other cities globally); wristbands in theme parks;[47] payment systems such as *wave-and-go*[48] or in the packaging of (or hidden within) pharmaceuticals.[49]

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[37] Lytle, M.J. *Japanese RFID phones ready to battle for West*, 20 August 2008. *Available at:* http://www.techradar.com/news/phone-and-communications/mobile-phones/japanese-rfid-phones-ready-to-battle-for-west-454283

[38] Lomas, N. *RFID could be in all cell phones by 2010*, 25 June 2009. *Available at:* http://news.zdnet.com/2100-9595_22-315292.html

[39] Ray, B. *Apple IDs the next-generation iPhone*, 10 November 2009. *Available at:* http://www.reghardware.co.uk/2009/11/10/iphone_nfc

[40] Stevens, T. *Wireless Dynamics brings the joys of inventory management to the iPhone with the iCarte RFID reader*, 19 November 2009, *Available at:* http://www.engadget.com/2009/11/19/wireless-dynamics-brings-the-joys-of-inventory-management-to-the

[41] Wolchak, P. *RFID tag sales soar*, 1 October 2009. *Available at:* http://www.backbonemag.com/Magazine/Backspace_10010905.asp

[42] RNCOS E-Services Private Ltd, *Global RFID Market Analysis till 2010*, 1 July 2009. *Available at:* http://www.researchandmarkets.com/reports/575246/global_rfid_market_analysis_till_2010

[43] Das. R., Holland, G. & Dr Harrop, P. *Apparel RFID 2009-2019*, 1 July 2009. *Available at:* http://www.idtechex.com/research/reports/apparel_rfid_2009_2019_000207.asp

[44] *Id*

[45] *Supra note* 22

[46] *Information gleaned from:* http://www.biomark.com

[47] O'Connor, M.C. *Great Wolf Water Park Launches RFID*, 22 March 2006. *Available at:* http://www.rfidjournal.com/article/articleview/2211/1/1

[48] Whateley, W. *Can you trust wave-and-go cash cards?*, 24 October 2009 *Available at:* http://www.timesonline.co.uk/tol/money/consumer_affairs/article6887579.ece

[49] MacFarlane, J. *Microchip that tells the GP if you've taken your pills* 12 April 2009. *Available at:* http://www.dailymail.co.uk/health/article-1169305/Microchip-tells-GP-8217-ve-taken-pills.html

Some of the more concerning uses that provoke the most widespread public reaction is in the tracking of humans. From the seemingly innocuous RFID-enabled wristbands used in protecting infants or paediatrics from 'wandering' undesirably[50] to the more contentious under-skin implantations of RFID[51] in a similar manner to micro chipping a pet dog or cat. There are case where this has been trialled voluntarily for entry to an exclusive nightclub, such as the Baja in Amsterdam via implanted chips,[52] yet as the latest fad falls out of fashion so this too has come to pass. There have also been cases used to invoke in Mexican officials entry into protected meetings, this too has come to realise the extent of the trial was far less than earlier assumed.

Despite marketing propaganda and TV commercials,[53] the *VeriMed* human implantable RFID chip raises fears of preying on the vulnerable and targeting those who are unable to make decisions for themselves, through Alzheimer's, etc. Arguably the 'freedom to choose' is not fully available to them[54] and privacy advocates are thus aligning the technology to the similarity in use to the tracking inmates in prisons[55] or illegal immigrants[56] to create a prison state for the masses.

As RFID moves beyond input/output at distribution centres to lining together multiple business applications and cross-sharing data with other companies, there are calls to term this next wave RFID 2.0.[57] With billions of RFID microcomputers now in operation globally, and rumours of 100Bn tags a year soon to be produced,[58] it is clear to see how the technology will eclipse the 2Bn number of personal computing devices and the 4Bn mobile handsets in the world.[59]

A modern barcode

The first commercial use of the Universal Product Code (UPC) or more commonly known *barcode* was when it appeared on a ten-pack of Wrigley's Juicy Fruit chewing gum in Ohio on June 26, 1974. As more consumer-packaged good adopted the technology, grocery stores typically saw a 10-12% increase in sales, and field studies showed a return on investment for a barcode scanner was 41.5%.[60] The grocery industry has saved at least $30M a year according to economic estimates. Any advancement that can ultimately reduce the overall price of food due to reduced shipping costs, or

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[50] *Information gleaned from:* http://www.xmark.com/solutions/wanderprevention/default.aspx
[51] *Information gleaned from:* http://www.verimedinfo.com/for_patients.asp
[52] Morton, S. *Barcelona clubbers get chipped*, 29 Septmeber 2004. *Available at:* http://news.bbc.co.uk/1/hi/technology/3697940.stm
[53] *TV commercial available to view at:* http://www.youtube.com/watch?v=Sh_032s6ePQ
[54] AntiChips, *Alzheimer's Patients Targeted for Medical Implant Experiment*, 22 February 2007, *Available at:* http://www.antichips.com/forced-chipping.htm
[55] *More Information on use can be seen at:* http://www.TSIPRISM.com
[56] RF Design, *RFID inmate tracking systems for 19 U.S. immigration detention facilities*, 25 November 2008. *Available at:* http://rfdesign.com/next_generation_wireless/news/inmate_tracking_systems_1125
[57] Information gleaned from: http://wirelesswatch.jp/2006/09/05/rfid-20-proposals-announced
[58] Dixon, P. *Rfid - 100 Billion Wireless Tagging Devices*, 1 June 2004. *Available at:* http://www.globalchange.com/rfids.htm
[59] *Information gleaned from:* http://thenextwavefutures.wordpress.com/2009/03/09/global-mobile/
[60] *Information gleaned from:* http://en.wikipedia.org/wiki/Barcode

other manufacturing technology where barcodes are widespread is the key drive behind the interest and adoption of new technologies such as RFID.[61] If such savings are passed to the consumer as opposed to increase profits to suppliers, there could be much more widespread acceptance.

Wal-Mart attracted media coverage when in 2003 it announced that from 2005, its top 100 suppliers would need to start tagging pallets and cases. By the end of 2005 it had RFID systems in more than 500 stores and five distribution centres. However by 2007 there was already struggling to provide value to suppliers – rebutted by Campbell's Soup, but agreed in principle by Sara Lee. By February 2009, key supplier Proctor & Gamble decided to remove itself from the pilot program. The issue remains in the tagging of pallets being of no real end value to the consumer, and the process is being hampered through cost of adoption and by the short-distance read range of RFID historically.[62]

Comparing RFID to barcodes is really like comparing a wireless computer to a printed sheet of paper. One of the drawbacks of barcode are a line-of-sight technology, requiring a scanner to "see" the bar code to read it though correct orientation, and that you can only read a single item at a time.[63] RFID in contrast can be read in any direction as long as it is within a reader, even through walls, and can read multiple items simultaneously, 700 in some instances,[64] making it much easier to tally up an entire shopping trolley, for example. It can also be written to like any card used in cameras or mobile phones, so it can store information. It is this concept that most appealed to Metro Group *Future Store* piloted in Rheinberg and now relocated to Toenisvorst, Germany. It is a store fully utilising RFID technology and boasts interactive displays and automated shopping checkout without cashiers. One application is a smart fitting room with touch LCD screen and intercom where the interactive display recommends accessories linked to RFID tags in garments. Already Metro Group is claiming a 15% in sales growth and 20% new customers as a result.[65]

Additionally, a barcode is more susceptible to soiling making it difficult to scan. Also standard bar codes identify only the manufacturer and product, not the unique item. Barcodes can only store 30 characters, where as RFID can store up to 8MB of data. The Electronic Product Code (EPC) is a globally-unique identifier and is composed of a string of numbers and letters, consisting of a header and three sets of data partitions, identifying the manufacturer, product type and unique serial number respectively. [66] Using the 96-bit code it is possible to uniquely tag 80 thousand trillion, trillion objects, and in turn deliver a webpage tracking the entire history and movement of that

[61] Varchaver, N. *Scanning the Globe*, 31 May 2004. *Available at:* http://money.cnn.com/magazines/fortune/fortune_archive/2004/05/31/370719/index.htm

[62] Supply Chain Digest, *Looking Back at the Wal-Mart RFID Time Line*, 23 February 2009. *Available at:* http://www.scdigest.com/assets/On_Target/09-02-23-1.php?cid=2275&ctype=content

[63] *Supra note* 22

[64] *Information gleaned from:* http://www.mojix.com/products/index.php

[65] *More information available at:* http://www.future-store.org/fsi-internet/html/en/392/index.html

[66] Jackson, R. *What is the Electronic Product Code (EPC)?*, 22 May 2007, http://home.att.net/~rfid/epc.htm

particular product. That's far more than every grain of rice on the planet, let alone every human and man-made product.[67] As a point of reference, by 2004 Wal-Mart had collated 460 terabytes of data – that is twice as much data as the Internet.[68]

To reduce RFID to merely barcodes does them an entire disservice. RFID truly are mini computers and should be thought of more akin to mobile phones, as opposed to barcodes. Yes they have wireless communicative qualities, but they also have processors. They can have memory storage that is read/write. The input device is not limited to a mouse or a keyboard or infrared scanner, but any one of a number of different types of environmental sensors monitoring all types of situations from location to temperature to beyond. The display device consequently could be anything from a mobile screen to a billboard to the very lights in your home or office, and much, much more.

It is important to realise that RFID is only one alternative to the barcode. Recent advancements in barcode technology have given rise to the Quick Response (QR) code, or matrix code, where mobile handsets are able to automatically open up web pages by pointing the camera at the QR code.[69] Another alternative is the Bokode, which is near invisible at only 3mm and able to be read from much greater distance and even through mobile handsets or CCTV cameras. They can even be used in improving accuracy in motion-capture due their 3D-type nature. Bokodes can also contain far more information than a barcode, such as the complete nutrition label from a food product as well as allow simultaneous capturing and comparison across multiple items on a shelf.[70]

Another variant is using blinking LED lights are also developments between Toshiba and NEC for blinking LED. Not requiring the same degree of accuracy required by a QR code, they are easier to pick up within five metres of where they are implemented simply by pointing your mobile device in the direction of the light.[71] These codes could be used in television to simply swipe a phone in the general direction to pull down content to your mobile handset. Similarly if used in ePrint device's I could sneakily grab content from someone else's eMagazine to my own personal device over their shoulder without them ever noticing…

[67] McIntire, L., and Albrecht, K, *The Spychips Threat* (Nashville, Tennessee: Nelson Current, 2006). pp26-28
[68] Hays, C.L. *What They Know About You*, 14 November 2004. *Available at:* http://query.nytimes.com/gst/fullpage.html?res=9406E5D7163FF937A25752C1A9629C8B63
[69] *More information available at:* http://www.denso-wave.com/qrcode/index-e.html
[70] Chandler, D.L. *Barcodes for the rest of us*, 24 July 2009. *Available at:* http://web.mit.edu/newsoffice/2009/barcodes-0724.html
[71] Murph, D. *Blinking LEDs to give QR codes a run for their (ad) money*, 23 November 2009*, Available at:* http://www.engadget.com/2009/11/23/blinking-leds-to-give-qr-codes-a-run-for-their-ad-money/

Ubiquitous Computing

RFID fits within part of a framework known as Ubiquitous Computing (UbiComp), which is the name ascribed to the third wave in computing.[72] Coined in 1998 by Mark Weiser, Chief Technologist of Xerox PARC,[73] it is about bringing a change to society in the same revolutionary way and speed that the Internet has to communication. It is the post-desktop model of human-computer interaction where information processing is thoroughly integrated into everyday objects and activities. Also known as pervasive computing, ambient intelligence, physical computing or the '*Internet of Things*'. It can also be termed M2M, which ranges from machine-to-machine to machine-to-man in its definition but is essentially about the connecting of people, devices, and systems. M2M is built around six pillars: RFID, remote monitoring, sensor networking, smart services, telematics, and telemetry.[74] It can also be linked to Haptic computing i.e. a device that involves physical contact between the computer and the user, allowing the user to 'feel' the interactive environment.[75]

According to Intel's Chief Technology Officer Justin Rattner,

> "*The machine will be capable of understanding the world around them much as humans do. They will see and hear and probably speak and do a number of other things that resemble human-like capabilities, and will demand as a result very (powerful) computing capability.*"[76]

The first wave in computing was where many people shared a single mainframe computer. These are often large machines contained in separated rooms. The second wave, 'personal computing', is where a single person interacts, sometimes awkwardly, with a computer on their desk. This era would also encapsulate portability of laptops, notebooks and mobile devices. The third wave heralds the age of *calm technology*, where technology recedes into the background and allows a single person to interact with multitudes of computers within their natural environment.[77] It is where computers transcend billions into trillions and are in turn integrated into our surroundings and interconnected along a smart grid – it will create a global *neuro-network,* a bi-directional electronic nervous system for the planet, capable of feeling and learning.[78]

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[72] Weiser, M. *Ubiquitous Computing*, 1996 3-March. *Available at:* http://sandbox.xerox.com/ubicomp
[73] *Information gleaned from:* http://en.wikipedia.org/wiki/Ubiquitous_computing
[74] *Information gleaned from:* http://www.m2mmag.com
[75] Ruvinksy, J. *Haptic technology simulates the sense of touch -- via computer* , 2 April 2003. *Available at:* http://news.stanford.edu/news/2003/april2/haptics-42.html
[76] Shankland, S. *Intel hopes 48-core chip will solve new challenges*, 2 December 2009. *Available at:* http://news.cnet.com/8301-30685_3-10407818-264.html
[77] *Supra note* 72
[78] Carless, J. *Smart Grid Strategies for a Global Marketplace*, 24 September 2009. *Available at:* http://newsroom.cisco.com/dlls/2009/ts_092409.html

"The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it"[79]

The vision of MIT's Auto-ID Center is to 'revolutionize the way we make, buy, and sell products by merging bits (computers) and atoms (humans) together for optimal mutual communication.' This will be achieved by the combination of the Electronic Product Code (EPC) – a unique numbering scheme for every *'object'* in the world – with an Object Name Service (ONS) and then 'using RFID tags built into objects like food, clothes, drugs or auto-parts, and read by devices in the environment, e.g., in shelves, floors, doors, to allow continuous tracking and identification of physical resources.'[80] Note the term 'object' here may also refer to humans, or 'atoms'.

Ray Kurzweil, Futurist, speaking on Change, says,

"The computer in your cell phone is a million times cheaper and a thousand times more powerful and about a hundred thousand times smaller than the one computer at MIT in 1965. So what used to fit in a building now fits in your pocket, what fits in your pocket will fit inside a blood cell in 25 years…. That's a billion-fold increase."[81]

To place this in a historic context, at the turn of the century a highly visible engine room would in turn hundreds of shafts and pulleys. Now a key inserted in a car can turn any number of motors from windscreen wipers, to the heater, to locking the doors, etc. The reduction in size, the efficiency of harnessing power and the cost of production has all been key factors in the disappearance of technology for most drivers.[82] In the same way the goal of ubiquitous computing is to use technology unconsciously to accomplish everyday tasks. Such as looking through a window and it displays upon it the temperature and weather conditions outside for the remainder of the day. Or whilst driving the car can alter itself to potential problems ahead, from the engine speed to the traction of the tyres on the road surface. ABS on cars, technology assisting through sensors and microprocessors and you are mostly unaware of it, as you are not using a 'mouse' or 'keyboard'.

The disappearance into our surroundings is more to do with human psychology then technology by altering our perceptions on what we currently understand of as 'a computer'. Whenever people learn something sufficiently well they cease to become aware of it. It is the same process as when looking at a street sign or a watch on your hand, we absorb information without consciously

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[79] Weiser, M. *The Computer for the 21st Century*, 1 September 1991. *Available at:* http://nano.xerox.com/hypertext/weiser/SciAmDraft3.html

[80] CoverPages, *Auto-ID Center Uses Physical Markup Language in Radio Frequency Identification (RFID) Tag Technology.*, 21 November 2001. *Available at:* http://xml.coverpages.org/ni2001-11-21-c.html

[81] Lomas, N. *Q&A: Kurzweil on tech as a double-edged sword*, 19 November 2008. *Available at:* http://news.cnet.com/8301-11386_3-10102273-76.html

[82] *Supra note* 79

performing the act of reading. Only when things disappear into the 'periphery' are we freed to use them without thinking and so to focus beyond them on new goals.[83]

The real world

It is important to not confuse ubiquitous computing with virtual reality. Virtual reality places humans inside a computer-generated world, where as ubiquitous computing forces the computer to live in the real world and co-exist with humans.[84] It is the entire opposite approach to making computers exciting and aesthetically pleasing little boxes to own and carry around, rather it is taking everyday organic objects and enhancing through sensors, computational power and wireless networking. It is bringing Internet access to household appliances, office equipment and cars[85] and will help with everything from automating process, to recommendations of scenarios to locating mislaid items.

UbiComp sets out to be used in every aspect of our daily lives, 'whenever you enter or leave your apartment, get into or out of your car, take the elevator or subway, pass highway tollgates, or visit public office buildings.' It is done through utilising a ubiquitous sensor network (USN), where you can turn electronic appliances at home on or off, or operate assembly line machines in a factory – all through the use of a cell phone or the Internet and RFID.[86]

The simplest form could be seen in a thermostat for monitoring the room temperature, yet in this next-world the sensors could be contained within clothing or via biometric sensors against the skin so that the home environment whether heating, lighting or air-conditioning could be continuously and imperceptibly modulated. Walk into a room and the light, heating and music comes on, walk out and it all turns off without the need to touch a switch and duly saves electricity. In this manner the 'computer(s)' can work around the human, not the other way around. Another example is Samsung's refrigerator that is aware of the contents within[87] and be able to notify stock items and expiration dates of individual foodstuffs and warn of spoiled food.[88] Electricity is cut to the fridge as soon as it is cold enough, so is not continually draining power. Similarly, work surfaces could react to items placed upon them and display possible menu options. Microwave ovens will automatically download cooking instructions via the Internet as soon as the food is placed inside. Discarded items in bins can

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[83] *Supra note* 79
[84] *Supra note* 72
[85] Schmid, C.W. *The Networked Physical World* , 21 November 1999. *Available at:* http://www.rand.org/scitech/stpi/ourfuture/Internet/sec4_networked.html
[86] Chung Myung-Je, *Dream Society Controlled by Ubiquitous RFID*, 10 July 2009, http://www.koreaittimes.com/story/4104/dream-society-controlled-ubiquitous-rfid
[87] Murph, D. *Samsung prepping RFID-enabled refrigerator*, 4 January 2007, http://www.engadget.com/2007/01/04/samsung-prepping-rfid-enabled-refrigerator
[88] *Supra note:* 73

be used for managing inventory replacement placing items into an electronic shopping list or for recycling options, both domestically and publicly so refuse agencies can dispose of items correctly.[89]

Washing machines select the correct washing cycles from clothes with imbedded RFID chips known as *'textile transmitters,'* sensors woven into clothes, but will quickly move beyond this. Plastic textile fibres like Nylon will also be able to transmit intelligence or change colour the colour of your clothes. Concepts around smart textiles are suggested would be useful for monitoring heart rates during exercise following cardiac arrest or parents to monitor a child's body and allow the clothes to communicate 'Sophie is too hot' whilst showing a little animation on her tee-shirt.[90]

Whether embedded into our clothes or bodies, RFID is capable of communicating with each other and us. Medical uses can be for monitoring health continuously and suggesting requirements from the need to drink more water, suggesting items to eat or not eat to rebalance the body, to alerting doctors of ongoing symptoms and better diagnose, prescribing actions from pharmaceuticals to operations. In this manner disparate databases begin to be linked, from commerce to health records and 'updates' happen as a result of sensory perception as opposed to physically needing to type into a keypad. Linked to health insurance so no more filling in forms trying to remember every operation in your life and if your grandmother had a kidney infection in her teens.[91] Linked to financial aspects, auto-adjusting insurance quotations or the price of food in supermarkets against our health records.

Cars are quickly becoming the most powerful super computer we own – using intelligent dynamic road signs connected to Internet and on board road sensing technology enabling autonomous driving. Cars will talk to one another & prevent accidents, knowing everything from the on board environment from number of passengers and weight distribution to speed, conditions and impending impact and find the safest course of aversion. The cars of tomorrow will utilise the intelligence of today's fighter jet.[92] Insurance will be reduced via continuous tracking of the vehicle, similarly all roadside cameras can be removed as eVehicle licensing will ensure road tax and insurance is valid, update tollbooths or communicate position and speed of vehicle continuously.

It is in each of these scenarios that marketers could show a potential interest. In knowing if an item has just been disposed of to link the 'when' to advertise with the 'what' and also the 'where' through the location of the person and vicinity to a digital screen. Knowledge of a person's well-being or

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[89] Quick, D. *'Smart Trash' cash for recycling concept*, 2 November 2009. *Available at:* http://www.gizmag.com/smart-trash-recycling/13254

[90] Berglin, L. *Smart Textiles Were Only the Beginning - Presenting Resource Smart Materials*, 25 November 2008. *Available at:* http://www.smarttextiles.se/index.php/en/media/press-releases/60-smarta-textilier-bara-boerjan-nu-kommer-resurssmarta-material

[91] *Explored in personal blog article.* 10 October 2007. *Available at:* http://deandonaldson.wordpress.com/2007/10/10/online-health-this-may-just-raise-your-blood-pressure/

[92] Bartz, D. *Autonomous Cars Will Make Us Safer*, 16 November 2009. *Available at:* http://www.wired.com/autopia/2009/11/autonomous-cars/

medical conditions to eating habits or in order to advertise anything from relevant foodstuffs to dietary supplements, from gym memberships to vacation opportunities. Knowing a car is failing in order to advertise local garages to assist or even potential replacement opportunities of a new and better car. Using the same principle with suggesting home electronics. Knowledge of a given person's financial situation and their spending habits to advertise relevant banking or credit opportunities or discussing changing insurance, telecoms or electricity service provider. From pregnancy to new family arrivals… the list is endless. Whether this would be acceptable, wanted or indeed moral is another matter entirely that needs to be debated.

There are huge potentials and serious adverse side effects, which would be both welcomed and hated by the public. Manufacturers continually stress convenience, safety and environmental advantages; privacy advocates stress the invasiveness by rogue states or continuous insights into our homes and items about our person to thieves or perverts. Both are equally powerful arguments.

The Digital Society

The concept of all this may sound like science fiction – or even beyond fiction – yet in some places around the world this is very much becoming a reality, especially Korea and Japan where ubiquitous computing is fast becoming a norm for every day society using *'smart'* or intelligent sensing devices.

Korea

Korea is also at the forefront of ubiquitous computing, with many cities utilising the technology *en masse*. Companies like Samsung and LG have been leading drivers.[93] In 2005, Daeje Chin, the Korean Minister of Information and Communication, said the government believes RFID to be as important as the mobile phone business, and authorized investment of $800M into RFID research.[94] From smart libraries to warehouses, from smart consumer appliances to ePurses, from smart homes to smart cities, the Korean government showcased the *'Ubiquitous Dream'* in Seoul in March 2004 and has backed roll-out of the technology since then.[95] In discussing Korea's ubiquitous sensor network (USN), Shin-Bae kim, Chairman of Korean Association of RFID/USN states:

> *"The globe has no option but to utilize RFID/USN today which enhances productivity in various*
> *industrial activities such as production, logistics, distribution & quality control and leads to*

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[93] RFID Update, *Report: South Korea Becomes a Force in RFID*, 27 March 2006. *Available at:* http://www.rfidupdate.com/articles/index.php?id=1082
[94] Ilett, D. *Korea dishes out $800m on RFID*, 24 June 2005. *Available at:* http://networks.silicon.com/mobile/0,39024665,39131408,00.htm
[95] IDTechEx, *RFID market developments in Korea*, 25 October 2004. *Available at:* http://www.idtechex.com/research/articles/rfid_market_developments_in_korea_00000099.asp

dramatic changes & improvement in quality in people's life style in terms of transportation, medical care, banking transaction, consumption and home-network."[96]

In a Joint effort between Tesco and Samsung in 69 Korean supermarkets, RFID was imbedded into shopping trolleys and baskets to ascertain customer movements in stores. *HomePlus* is designed to boost efficiency in shop layout or product placement, automatically working out where to place certain products in relation to each other, for example all breakfast requirements in the same aisle, not particular food stuffs as they are in most stores, to make it more convenient to the customer. They have had no complaints regards privacy, and as such they are investigating smart shelves and smart products, which enable auto-checkout too.[97]

Another initiative is *HomeVita* home network system[98] from anywhere inside your home you can control your network appliances, lights, gas, etc., through your *Home Pad* and outside through your mobile phone. It uses a home gateway device that connects all electronic items in the home, from TVs and BluRay players to Air Conditioning units or even CCTV cameras, allowing you to permanently monitor or control every aspect of your home even whilst away through your mobile phone, e.g. turn the cooker or washing machine on. View your media or communicate via any screen around your home.[99] From fingerprint entry to the house, to RFID refrigerators that send a shopping list to your mobile phone when you remove items out of them to being able to monitor each room around your home or outside from a screen near your bed. Hi-tech security tracking systems that guard against fire, theft and medical emergencies. This is all happening and gaining momentum in Korea right now[100] and being showcased in other countries, such as Abu Dhabi.[101]

You can auto-order your food in McDonalds' from RFID menus which then alert you on your mobile when your food is ready to pick up, where you pay via *wave-and-pay* RFID mobile phones.[102] S-Oil Service stations in Seoul have fuel pumps that read RFID sensors on cars and auto-select the correct fuel type, and then let you pay wirelessly and collect loyalty points.[103] People can check RFID chips on bottles in bars via their mobile phone to see whether alcohol is genuine which also alert National

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[96] *Chairman's message can be found at:* http://www.karus.or.kr/eng/sub_01.asp

[97] Tan, A. *RFID tracks shopping habits*, 5 July 2006. *Available at:* http://news.zdnet.co.uk/communications/0,1000000085,39278197,00.htm

[98] *For more information, see:* http://support-cn.samsung.com/homevita/

[99] *Information gleaned from*: http://210.118.57.197/HomeNetwork/HomevitaSolutions/index.htm

[100] *See:* http://210.118.57.197/HomeNetwork/WowDigitalExperience/StandingExhibition/Seoul_Gallery.htm

[101] Information gleaned from: http://www.etisalat.ae/index.jsp?lang=en&type=content&currentid=10c8e15c0b56a010VgnVCM1000000a0a0a0a&contentid=2b3985010a2cb010VgnVCM1000000c24a8c0RCRD&parentid=fa58800d1f52a010VgnVCM1000000a0a0a0a

[102] FuturizeKorea, *McRFID in Korea*, 11 May 2007, http://www.futurizekorea.com/entry/McRFID-in-Korea

[103] *Information gleaned from:* http://www.futurizekorea.com/entry/News-Roundup-8

Tax service.[104] Using *'MobiOn'* (Mobile Identification On), interactive tourist information, including audio guide, is delivered to your mobile phone as you walk in the vicinity of certain hotspots in streets, in cultural centres or museums.[105] Korea also has plans to building the world's largest ubiquitous city or 'U-City' in New Songdo, 40 miles from Seoul in 2014 – a society entirely built around RFID – and a test bed for new technologies and 'exemplify a digital way of life'. It is already selling out of apartments in the U-City.[106]

Japan

Japan is at the forefront of development and advancing RFID technology and applications. In 2001 *Suica* or 'Super Urban Intelligent Card' was launched across enabling wireless payment and access to Japanese travel networks to replace paper train tickets. The technology allowed for the card to be read at some distance from the reader, so contact was not required. By the start of 2003, MIT's Auto-ID centre opened in Japan to build upon the WIDE project, which aims to establish a *'widely integrated distributed computing environment'*. It was seen as a key move due to the advancement of consumer adoption of Internet refrigerators and home networks.[107] In 2004, Japanese mobile operator, NTT DoCoM, launched their RFID-enabled cell phone.

By the end of 2005, 10M *Suica,* which has read/write RFID train passes able to store information, had already been issued and were in wide use. Read/write technology was implemented because it helps reduce the communication traffic between ticket gates and a 'main computer.' It also was to help people remember and reflect on their personal travel histories as well make it extremely easy for people to share personal travel histories, in the same manor as *TripIt* does online.[108] The adoption of the *Suica* train passes has in part led to public acceptance through digital art where the smart cards serve as a way of interacting with dynamic art.[109]

By 2007, as a result of three years of continued government investment of over 10 Billion Yen, tens of thousands of stores in Tokyo had RFID readers installed at the point of sale, which accepted your smart card or cell phone as means of e-payment as did many cinema reservation systems. *Mobile Suica* enabled travel via the same cell phone technology even into some taxis, or access to cashless vending machines or lockers, as opposed to hunting for correct small change. NTT DoCoM shipped

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[104] *Information gleaned from:* http://www.futurizekorea.com/entry/Korea-develops-RFID-system-to-battle-counterfeit-whiskey-sales

[105] *Information gleaned from:* http://eng.tongyeong.go.kr/06/01_03.asp

[106] Licalzi, P. O'Connell, *Korea's High-Tech Utopia, Where Everything Is Observed*, 5 October 2005. *Available at:* http://www.nytimes.com/2005/10/05/technology/techspecial/05oconnell.html

[107] RFID Journal, *Japan to Push RFID Development*, 20 February 2003. *Available at:* http://www.rfidjournal.com/article/articleview/312/1/1

[108] We Make Money Not Art, *Sherelog: Suica Mashup*, 13 March 2006. *Available at:* http://www.we-make-money-not-art.com/archives/2006/03/sherelog-suica.php

[109] *Digital Art exhibitions can be seen at:* http://www.cyber.rcast.u-tokyo.ac.jp/~k-taro/suicalog.html *as well as at:* http://www.digital-public-art.org/

around 50 million RFID enabled cell phones in 2007 alone, which has helped drive e-cash to become the preferred method of payment for many.[110]

Some of the most controversial uses are from being able to visit and access ancestor's graves via RFID,[111] or tagging children at schools to stop them going astray.[112] The Japanese government is helping to build 'a system for watching kids' via GPS and RFID and investing 1.2Bn Yen into the project. RFID tags are placed onto children's schoolbags, name tags or clothing and read by readers installed in school gates and other key locations where the tags operate as a class 'register' and parents can get updates to their mobile phones letting them know children have arrived safe.[113]

Currently around 20% of Japanese use their *osaifu keitai* or 'wallet phones' in everyday life and the system has been broadened to monitor home security, including wireless entry to houses, linking to electrical appliances around the home and even using phone to see who is at the front door via the CCTV cameras.[114] Quite what happens when they run out of battery life or leave their phone at home I am not sure! It would seem urban life would come to a complete stand still.

The *'Tokyo Ubiquitous Project'* was first undertaken to investigate an 'information environment' in 2005.[115] Now in 2009, under the RP Ubiquitous Networking Laboratory,[116] plans are underfoot to make 'a ubiquitous society in which anyone can easily access necessary information anytime, anywhere' with the aim of making Tokyo the safest and most comfortable city in the world by embedding RFID tags into key locations. It will allow you to search shops and facilities from your phone, and then give you directions to them through route guidance across public transport.[117]

Beginning in December 2009, NNT DoCoMo are expanding to facilitate an *'Environmental Sensor Network'* (ESN), installing sets of environmental sensors that measure pollen, carbon dioxide (CO_2), ultraviolet (UV) sunlight and other atmospheric conditions in 300 locations around Tokyo to be used in anything from weather forecasts to health monitoring to reducing power or water consumption.[118]

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[110] IDTechEx, *Progress with RFID in Japan*, 24 August 2007. *Available at:* http://www.idtechex.com/research/articles/rfid_in_japan_00000728.asp

[111] *Information gleaned from:* http://www.youtube.com/watch?v=XTIXIWok7Zo

[112] Best, J. *Japan school kids to be tagged with RFID chips*, 12 July 2004. *Available at:* http://news.cnet.com/Japan-school-kids-to-be-tagged-with-RFID-chips/2100-1012_3-5266700.html

[113] SmartMob, *Watching kids in Japan*, 5 January 2007. *Available at:* http://www.smartmobs.com/2007/01/05/watching-kids-in-japan/

[114] Chhabra, G. *Houses in Japan get RFID protection*, 31 March 2008. *Available at:* http://www.rfid-weblog.com/50226711/houses_in_japan_get_rfid_protection.php

[115] *Information gleaned from:* http://www.tokyo-ubinavi.jp/en/about.html

[116] *More information at:* http://www.ubin.jp/english/index.html

[117] *Plan guide available at:* http://www.tokyo-ubinavi.jp/pdf/guide_eng.pdf

[118] *Information gleaned from:* http://www.nttdocomo.com/pr/2009/001461.html

The West

Though the East is much further along the path of ubiquitous computing, it has not escaped the notice of the west, or in some case already begun to be implemented, such as the widely publicised OysterCard in London to one of Europe's biggest theme parks, LegoLand in Denmark,[119] or from the first RFID e-Toll Road in Dallas by AmTrack in 1989[120] to the M6 in West Midlands, UK to name a few. UK councils started placing RFID readers into wheelie bins back in 2006 and initial rollout was half a million homes, which the press termed *'bin brother'* after it emerged plans for offenders of non-recycling could pay fines.[121]American Express *ExpressPay*, Mastercard *PayPass* and Barclaycard *OnePulse* all have wireless *wave-and-pay* using RFID that are replacing current cards – in fact there are already so many uses of RFID implemented by many high street retailers, office buildings, hotels, car parks and transport networks – except most people seem blissfully unaware.

The Architectural League of New York is looking at ways of embedding computational intelligence into the built environment. In 2008 it was looking for ideas from many disciplines 'to submit qualifications for an exhibition that will critically explore the evolving relationship between ubiquitous/pervasive computing and urban architecture.'[122] *Towards the Sentient City* is an ongoing process into exploring ubiquitous living.[123]

Following on from UK's RFID passports, researchers are looking at TINA (The INtelligent Airport) to investigate ubiquitous airports to aid efficiency and security using a RFID-enabled Distributed Antenna System (DAS) that gives 100% permanent coverage. Not just limited to cargo and luggage tracking systems, ideas around smart boarding passes, support for passenger information, entertainment services and goods-location support in airport retail. The system plans to be linked to CCTV cameras for auto visualization and detection via various biometric sensors or explosive and chemical detectors would allow continuous tracking of people as they move through the airport.[124]

Electronic funds transfer (Eftpos) has displaced cash as the most common method used to pay for things in most cities, certainly New Zealand is leading the way forward following Japan and South

[119] Wexler, J. *Case Study: Legoland tracks children with Wi-Fi based RFID*, 27 April 2004, http://howto.techworld.com/mobile-wireless/532/case-study-legoland-tracks-children-with-wi-fi-based-rfid

[120] *Information gleaned from:* http://www.statemaster.com/encyclopedia/Toll-road

[121] Delgado, M. *Germans plant bugs in our wheelie bins*, 26 August 2006. *Available at:* http://www.dailymail.co.uk/news/article-402439/Germans-plant-bugs-wheelie-bins.html

[122] Stirling, B. *Your chance to intervene in ubiquitous/pervasive New York City*, 30 April 2008, http://www.wired.com/beyond_the_beyond/2008/04/your-chance-to

[123] *Information gleaned from:* http://archleague.org/2009/10/sentient-city-charrette/

[124] Wessel, R. *U.K. Researchers Study Distributed Antenna System for Airports*, 18 November 2009, http://www.rfidjournal.com/article/view/7215/1

Korea.[125] Using credit and debit cards should be cheaper and more convenient than cash, and rumour by VISA chief is that by 2012 retailers could actually start charging for use of cash in the same manor as *OysterCard* in London hiked up the prices of using cash for travel.[126]

Digital marketing with RFID

From a marketing perspective the ultimate concept of RFID would be in the targeting of individual persons or consumer groups from a commercial standpoint to deliver uniquely targeted brand messages either through advertising or in point-of-sale (POS). It assumes a unique identifier is given to every single individual and to some degree is linked to his or her purchase habits via tagged items.

Taking a look at where RFID is being used in marketing and advertising currently, or in relation to concepts that can be enhanced with RFID, will help illustrate some of the potential that we can expect from this technology. In looking at some of the trials and implementations happening around the world, it also highlights some of the pitfalls and challenges marketers face and must be mindful of in contemplating embracing this. It provides a springboard for further discussion into NFC/RFID initiatives, investigating the potentials, reactions and concerns.

From clothing to consumer packaged goods

In March 2003, *Wired* ran a story about Benetton's plans to 'weave' RFID chips into the collar tags of its Sisley garments to track its clothes worldwide. The Italian clothing manufacturer felt costs could be reduced by not having to individually scan each item of clothing, as well as prevent theft or isolate counterfeit goods.[127] In this manner, it is not unlike Digital Rights Management (DRM) for clothing.

Privacy advocates and business analysts commented that anyone with a reader on a high street would be able to locate and track anyone wearing the clothes. They would also be able to tell what item of clothes, especially if placed on underwear. Similarly anyone driving by a home could tell what tagged products would be in the home, and the fact no one else is. Also worries that such the technology 'could be exploited for government surveillance or be misused by hackers and criminals.'[128] Clearly these are huge privacy concerns for the public.

What was also highlighted was the concern of consumers being bombarded with intrusive advertising since an intimate history of customers' purchases and preferences along with their

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[125] NZ Herald, *Kiwis moving closer to cashless society*, 22 June 2009. *Available at:* http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10579940&pnum=1
[126] Tim Webb, *Cashless society by 2012, says Visa chief*, 11 March 2007. *Available at:* http://www.independent.co.uk/news/business/news/cashless-society-by-2012-says-visa-chief-439676.html
[127] Batista, E. *What Your Clothes Say About You*, 12 March 2003, *Available at:* http://www.wired.com/gadgets/wireless/news/2003/03/58006?currentPage=1
[128] Chai, W. *Benetton considers chip plans*, 7 April 2003, *Available at:* http://news.zdnet.co.uk/hardware/0,1000000091,2133031,00.htm

identities would be linked with the tag even after they leave the store.[129] The point was that companies would want to sell them their products would be interested in this data to suggest items to match, as shown in the film *Minority Report*.[130] There were calls to ensure deactivation of tags upon leaving the store. However, Katherine Albrecht, co-founder of US-based group CASPIAN (Consumers Against Supermarket Privacy Invasion and Numbering) called for the tags to not be there in the first place and to boycott Benetton.[131]

The exposure caused the company to listened and step back from its original plans of weaving the chips into the garments to ease consumer tensions, which was seen as victory to the consumer groups.[132] However Benetton stopped short of writing off the technology for asset management, or even tagging clothes in the future after initial tests, just with 'sensitivity to the need to educate consumers about the technology.'[133] Other clothing manufacturers including Prada in Manhattan[134] stores and Levi Strauss in two outlets in Mexico and one in US[135] also continued with trials despite public reaction, but limited to external RFID clips or "hang tags" that are removed before the product leaves the stores. There reasons are inventory management and reduction in garment theft.

By mid-2003, smart shelves were trialled on both sides of the Atlantic: Gillette Mach3 razor blades at a Tesco store in Cambridge, UK[136] and Proctor & Gamble's Max Factor Lipfinity lipsticks in a Wal-Mart store in Broken Arrow, Oklahoma.[137] By hiding an RFID tag inside packaging, the shelves were aware of the product being removed and triggered photos of the consumer were captured with hidden cameras. Both organizations came under a barrage of fire from privacy groups and media alike, all of which felt *Spychips* had invaded their personal space. Despite 'premises under surveillance' being quoted as a defence tactic by the stores, 'to test security benefits,'[138] picketed protests ensued led by CASPIAN again calling for boycott of the products.[139]

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[129] *Supra note* 127
[130] *Supra note* 1
[131] *For more information see:* http://www.boycottbenetton.com/
[132] *For more information, see:* http://www.boycottbenetton.com/PR_030407.html
[133] RFID Journal *Benetton Explains RFID Privacy Flap*, 23 June 2003, *Available at:* http://www.rfidjournal.com/article/articleview/471/1/1
[134] Batista, E. *'Step Back' for Wireless ID Tech?*, 8 April 2009, *Available at:* http://www.wired.com/gadgets/wireless/news/2003/04/58385?currentPage=1
[135] Sullivan, L. *Levi Ships RFID-Tagged Jeans, Dockers*, 28 April 2006. *Available at:* http://www.crn.com/it-channel/187002054;jsessionid=R4YHPEYA4XP4NQE1GHRSKH4ATMY32JVN
[136] Jha, A. *Tesco tests spy chip technology*, 19 July 2003. *Available at:* http://www.guardian.co.uk/business/2003/jul/19/supermarkets.uknews
[137] Vance, A. *Wal-Mart turns customers into RFID lab rats*, 11 November 2003. *Available at:* http://www.theregister.co.uk/2003/11/13/walmart_turns_customers_into_rfid/
[138] McCue, A. *Gillette slams privacy concerns over RFID tracking*, 14 August 2003. *Available at:* http://networks.silicon.com/lans/0,39024663,10005596,00.htm
[139] *For further information see:* http://www.boycottgillette.com/

With the many stores since adopting the technology placed often looking like a stick-on barcode, but underneath is a RFID chip, and with it being placed across a plethora of packaged goods from pharmaceuticals packaging to hair products, to DVD and BluRay films and games, this is clearly not a technology that is not going to go away. Part of the reason is to stamp out shoplifting, especially on small desirable items that are highly relished during a recession. P&G had previously stated that they lose $50 billion a year to theft and other 'shrinkage' costs.[140]

Though often quoted *"You can disable the tag by erasing the data on it and this can be done at the checkout,"*[141] as was the response to the trial in Tesco UK, the fact that home electric appliances will want to be able to read the tags as is already demonstrated in Korea – whether washing machines for clothes, or bins for recycling – the fact of the matter disabling tags will not happen. It is even more foolhardy to think this when some chips used have deliberate writeable capabilities – they are not read only. Even if shops 'disable' chips on initial rollout to ease consumer adoption, it will soon be superseded. Even passive chips respond to a call by a reader and can be reactivated. The product packaging with RFID tags will be used as proof of purchase and be expected to be intact to be able to be re-read in order for consumers to claim refunds.[142] The only hope we have as consumers that in time this technology becomes incredibly secure through advanced encryption techniques (possibly with rights that we can control), as this is clearly needed for any kind of confidence levels to rise.[143]

Loyalty cards

Based on RFID enabled loyalty cards, Sprint in the US have developed applications that can identify a customer as they pass within eight feet of an RFID reader as they move through a store. The application triggers the appearance of a customized computer avatar on a nearby screen. Knowing the history of purchases made by the customer, the avatar can suggest an offer based on those implied preferences. The loyalty card can also trigger access to a consumer's cell phone allowing them to use that screen for browsing or purchasing items.[144]

Oystercards in London are an interesting twist on the Loyalty card concept using RFID.[145] Loyalty cards usually reward consumers for opt-in, trading privacy for a tiny reward that over time could enhance overall well being such as a free flight with *AirMiles,* one of the first loyalty programmes in

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[140] *Supra note* 134
[141] *Supra note* 136
[142] Swedberg, C. *Schuitema Tests NFC Phones in a C1000 Grocery Store*, 10 September 2007. *Availabe at:* http://www.rfidjournal.com/article/articleview/3605
[143] Information gelaned from: RSA Laboratories, *RFID Privacy and Security*, http://www.rsa.com/rsalabs/node.asp?id=2115
[144] Sullivan, L. *Loyal To RFID*, 19 May 2004, *Available at:* http://www.informationweek.com/news/mobility/RFID/showArticle.jhtml?articleID=20800056
[145] *Information gleaned from:* http://www.rfidnews.org/2003/10/24/first-customers-for-londons-oyster-smartcard?tag=Transit

the 1980's.[146] Whether consumers are fully aware of the privacy implications of loyalty cards is debateable, but the concept does exploit a loophole in the opt-in process and is considered fair trade. OysterCard turned the model on its head by putting cash prices up, and making it more awkward to obtain rail cards by cash upon launch. Though they marketed it as 'faster, smarter, cheaper' in reality it wasn't a reduction in price or queues at all, it could only be argued thus compared to inconvenience and expense of the cash-paper system they deliberately made to be so awkward.[147] As Oystercard has joined forces with Barclaycard for combining purchases and travel, the data that is held and potential for marketing across digital signage being rolled out across London's travel network is an obvious target given consumer buy-in.[148]

Magazines

A French magazine utilised RFID embedded in its pages as a way for users with an RFID reader attached by USB-port on their PC to gain access to exclusive online content, such as games, videos and applications. It is the next version of attaching a floppy disc, which turned into a CD or DVD on the cover of a magazine. This time however, the RFID is totally unique allowing the publisher to know exactly who, what or where afforded by electronic measurement.[149]

Point of Sale

In Seattle in 2006, a pilot to some cafes, retail stores and the ferry terminal began to implement RFID activation fields called 'OmniZones' for the visually and hearing-impaired provided by Awarea. Speakers are mounted on a telephone booth or the facade of the store. As the people carrying the 'Omni' RFID cards pass by, they can hear a personalised message. Customers who then want more information can push a 'tell-me-more-button.'[150]

The company also promotes the possibilities for tourists who might want guidance in the Seattle area too, or for consumers who want information or reward and has widened the service to send messages to mobiles or visual displays around key locations. The monthly subscription Omni Cards have a within a 50 feet range and can pick up discounts, or coupons for free coffees, etc from a 50 feet radius from a number or retail outlets who have signed up to the programme. What concerns me most, other than their awful website,[151] is that there is no privacy policy anywhere obvious to be

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[146] *Information gleaned from:* http://en.wikipedia.org/wiki/Air_Miles

[147] Rogers, J. *London fare freeze to boost smartcard use*, 19 August 2003. *Available at:* http://www.computerweekly.com/Articles/2003/08/20/196683/London-fare-freeze-to-boost-smartcard-use.htm

[148] The Register, *Oyster card evolves into OnePulse*, 11 September 2007, http://www.theregister.co.uk/2007/09/11/oyster_card_onepulse

[149] Stableford, D. *Magazine Uses RFID Tags to Connect to Internet*, 30 April 2009. *Avaiable at:* http://www.foliomag.com/2009/magazine-uses-rfid-tags-connect-internet

[150] Bostrom, J. *Target marketing via RFID to debut in Seattle*, 23 May 2005, *Avaiable at:* http://www.infoworld.com/t/networking/target-marketing-rfid-debut-in-seattle-175

[151] *If you really must go, its:* http://www.awarea.com

found, especially as their hardware supplier Axcess Inc. stated that, *"data about the customer can be mined and sold to the retailers. It can also be used to personalize marketing and map customer behavior."* I appreciate the 'opt-in' to the service, but to what degree personal information is protected thereafter is anyone's guess.

In 2008, McDonalds Japan deployed *Kazasu* Coupon and an e-wallet RFID payment system in 175 locations with ambitions for all 3,800 retail shops nationwide to be completed by 2009 for it' s 10 million registered mobile users. It was pawned by their concern about cost benefits of mainstream marketing, specifically TV ads, and their desire to have a more detailed market segmentation integrated for CRM.[152] Consumers are able to download coupons and order from a menu on their phone and then pay for meals via their RFID enabled mobile by waving it over the POS terminal – all without speaking with a McDonalds employee if they do not wish. In one transaction, the order and payment zips to the terminal and an e-receipt comes back. The McDonalds' CRM system is updated and begins to understand buying patterns and habits of consumers and sends them coupons specific to their buying preferences direct to their mobile handset. Using barcode readers on the handsets, customers are able to use the scanner on barcodes on the meals to get nutritional information sent direct to their phones.[153]

Yet even in Japan there are concerns as one woman pointed out: "*The food here's as cheap as it gets anyway - why would I give out my phone information and risk junk mail from McDonald's just to save a few yen once in a while?"* It is highlights a growing fear of receiving unwanted marketing after signing up for discounts, leading many Japanese to avoid coupon technologies, such as QR Codes. Clearly a balance needs to be struck around 'how much is too much' in order to maintain acceptance in the marketplace.[154]

Aramis by Estee Lauder and their other designer fragrances are utilising interactive screens aimed at men in certain UK stores via RFID chipped products. When Lab Series Skin Care For Men range of products are picked up, they play back specific videos on the product along with cross-recommendation to other products in the range. A special tag from a Lab Series Consultant can also turn the screen into a skin scanner, 'enabling a customer's skin type to be analyzed and suitable products recommended.'[155]

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[152] Wireless Watch Japan, *McDonalds Japan Rolls RFID Coupons*, 23 May 2008. *Available at:* http://wirelesswatch.jp/2008/05/23/mcdonalds-japan-rolls-rfid-coupons

[153] Swedberg, C. *McDonald's Japan Brings Discounts to Phones*, 2 June 2008. *Available at:* http://www.rfidjournal.com/article/view/4108/1

[154] Lytle, J. M. *McDonald's serves Java with mobile phone menu*, 20 May 2008. *Available at:* http://www.techradar.com/news/phone-and-communications/mobile-phones/mcdonalds-serves-java-with-mobile-phone-menu-370050

[155] Digital Signage Today, *Signagelive powers Estee Lauder point-of-decision retail signage*, 17 October 2008. *Available at:* http://www.digitalsignagetoday.com/article.php?id=20872&na=1&s=2

Coca-cola is offering a potential mix of up to 100 varieties of sodas, juices, teas, and flavoured waters from a single Freestyle vending machine. Initially rolled out to diners at some California, Georgia, and Utah fast-food the plans are to roll out tens of thousands of them in places such as McDonald's, Burger King and Willy's Mexican Grill across the US. Freestyle enables Coke to test new drink flavours or beverage concepts drink combinations through flavour cartridges tagged with RFID and the dispensers collect data on flavour and amount customers use and transmit that information back to Coke. The data is used to market-test new drinks and identify regional differences in a much faster and cheaper way then launches it traditionally has done.[156]

Digital signage

Covering the four cities of New York, Chicago, Miami and San Francisco, Mini Cooper owners in 2007 were sent an RFID key fob in a box explaining that they could get unique personalized messages on billboards around the cities. It appealed to the drivers egotistical sides, and after they selected their customised and personal message, such as 'You are looking hot, Steve' and as they drove around the cities the billboards would display their messages to them, their passengers and nearby motorists. The tags contained no personal information, used the highest security possible, were only used at drivers discretion and could be read from 500 feet (150m) away. The mini community was split as to whether they felt it was 'cool' or 'creepy'.[157]

Electronic billboards in Japan use face scanning technology to take pictures of people walking past by them and determining their age and sex. 500 of these digital signs that are powered by Commel and brought to bear by Yahoo Japan, the key Internet Service Provider there, are using NEC's facial recognition technology to serve up personalised content such as news, weather and advertising. Once served, the photo is erased automatically, but the age and sex are retained.[158] The technology is obviously assuming there is a line-of-sight in so much as someone is looking at the board as they pass by. RFID would not need such a requirement.

Toshiba also set up an interactive digital billboard in Tokyo above a camera shop that allowed both YouTube users on the Internet and passersby with their mobile phones to play video games against each other on a large public screen. YouTube users clicked on a link, where as mobile users had to call a number for them to participate in this six person at a time game. It is incredible to think that

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[156] Hayes Weier, M. *Coke's RFID-Based Dispensers Redefine Business Intelligence*, 6 June 2009. *Available at:* http://www.informationweek.com/news/mobility/RFID/showArticle.jhtml?articleID=217701971

[157] O'Connor, M.C. *RFID-Enabled Billboards Talk to Mini Motorists*, 29 January 2007, *Avaiable at:* http://www.rfidjournal.com/article/articleview/3005/

[158] Toto, S. *Yahoo Japan plans to scan passersbys, put up personalized content on billboards*, 9 April 2009, http://www.crunchgear.com/2009/04/09/yahoo-japan-plans-to-scan-passersbys-put-up-personalized-content-on-billboards/

people would stand in the street and play against people on this giant gaming screen. This concept could also be enhanced using RFID sensors and messages to a mobile.[159]

Part of the *Tokyo Ubiquitous Network[160]* is also allowing advertising triggered via RFID in shopping centres. Discount coupons are beamed to mobile handsets, with a potentially higher discount if you are tempted to leave the store. The tags and transmitters identify a reader or phone's location and match it to information provided by shops.[161] Benefits to shopper are they get to know where the products are whilst browsing the store and shop owners begin to understand what products they are interested in. *ShuFoo* service enhances the concept of coupons and offers that the company used to deliver by print to the mobile device, as well as sending down bill copies of the purchased items to the mobile handset if required. *ShuFoo* is generally aimed at housewives and the website had 60M users looking for coupons in the first 6 months of 2009.[162]

There are also have *SuiPo* (Suica Posters), RFID enabled posters in train stations and streets where a user requiring more information can either touch their Suica card or point their mobile device at the poster and pull down more information to their phone. It could be for tourist information or advertising purposes.[163]

Digital signage in Paris is able to communicate to passersby on their RFID-enabled mobiles if they have certain software installed and choose to participate in the program. The consent by consumers allows them to receive messages ranging from ring tones or short videos to a discount voucher as they move through the city.[164] A similar model is used in Southampton University in UK but using BlueTooth.[165] This opens up an interesting model for consumer 'opt-in', though caution to over bombard them could result in termination of the service. The technology funded by the French government and supplied by research institute *INRIA*. Other concepts they have in operation are helping blind people take the bus, billboards that change to the language of the passerby, or technology to place an order via your mobile phone from the back of the queue in fast food restaurants, or to have questions and details ready in a banking situation beamed from your phone as opposed to handing over your card.[166]

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[159] Pink Tentacle, *Toshiba tests phone-controlled billboard game*, 26 March 2009, *Available at:* http://pinktentacle.com/tag/toshiba/
[160] *Supra note* 115
[161] Trendhunters, *User Targeted Ads Via RFID* , 4 January 2007, http://www.trendhunter.com/trends/user-targeted-ads-via-rfid-attention-shopper-this-ad-is-just-for-you
[162] Wireless Watch Japan, *Coupon Shopping with Shufoo!*, 25 June 2009. *Available at:* http://wirelesswatch.jp/2009/06/25/coupon-shopping-with-shufoo
[163] *Information gleaned from:* http://www.technovelgy.com/ct/Science-Fiction-News.asp?NewsNum=1089
[164] Crampton, T. *Where to draw line when street ads give you a ring*, 7 May 2006, *Available at:* http://www.nytimes.com/2006/05/07/technology/07iht-mobilead08.html?pagewanted=1&_r=1
[165] *Information gleaned from:* http://www.iam.ecs.soton.ac.uk/news/1063
[166] *Supra note* 164

Camera angles

Another French company, Quividi, is able to detect if a person is actually looking at a billboard or not through utilising camera technology.

> *"Using a simple video sensor,* Quividi *uses proprietary image processing technology to count actual viewers and overall opportunities to see (OTS) while accurately measuring attention times and dwell times and estimating the gender and age distributions of your audience."*[167]

Again, this is using facial recognition, but the concept could easily be enhanced through RFID, combining personal profiles along with recognition if someone was actually looking at the screen before showing the ad.

Castrol oil ran an outdoor campaign on digital billboards on five major routes into London. Utilising roadside cameras to take photos of 200,000 car number plates, the system crosscheck a database before displaying the registration onto the billboard along with the correct grade of oil recommended for car's engine.[168] It attracted media attention[169] after it was revealed that the firm responsible for the data of 34M driver details of UK motorists obtained date from the DVLA (Driver and Vehicle Licensing Authority) under the government's watchful eye, which holds make, year, engine size and model of the vehicle needed for the campaign.

Questions arose over the privacy of a government agency making such data freely available and used for a purpose other than why it was collected. The data was merely crosschecked and the registration photographs were deleted immediately upon ad delivery. However drivers are not aware of this or how it is being taken, used or stored. In a personal conversation with Mindshare,[170] the media buying agency, they admit they were not prepared for a consumer backlash, which I am surprised at as there is an over-familiarity on behalf of the advertiser used here, which understandably can make people feel uncomfortable.

However, once the cars are equipped with proposed eLicense plates utilising RFID chips, potentially all billboards with readers could target motorists in this manner without the need for cameras. The same is true for monitoring car position and speed, continuously. Both are contentious issues from a public perspective irrespective if advertisers, insurance companies or governments drive the adoption process.

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[167] *Information gleaned from:* http://quividi.com

[168] Farey-Jones, D. *Castrol uses cameras and digital billboards to talk directly to motorists*, 21 September 2009. http://www.brandrepublic.com/news/index.cfm?fuseaction=BR.News.Article&nNewsID=939651&sHashCode=&

[169] Leake, C. *Drivers' details sold by DVLA are used in bizarre roadside adverts for Castrol,* 27 September 2009. *Available at:* http://www.dailymail.co.uk/news/article-1216414/Now-drivers-details-sold-DVLA-used-bizarre-roadside-adverts-Castrol.html

[170] Conversation happened on 3rd December in Mindshare Chicago with global media director.

A similar concept was trialled in the US using radio frequency. A smart billboard on Highway 99 used *SmarTrack* to monitor passive 'local oscillator' signals emitted by the FM radios of passing cars. Those signals represent the frequency of the radio station tuned into by the motorist and then group all data, and matched it against a media audit database segmented by radio station to determine consumer demographic and purchasing pattern information. The system is then able to select the correct seven-second ad to show from its database that could be special offers from approaching shopping mall, for example. The system is able to show 1,536 such ad spots every single day.[171] Again this system would be refined with use of RFID eLicense chips on cars.

Tag Match Advertising

Kyoung Jun Lee & Jungho Jun have written a paper on "Tag Match Advertising Business Model in Mobile RFID Environment"[172] supported by the Ubiquitous Autonomic Computing and Network Project, the Ministry of Knowledge Economy 21st Century Frontier R&D Program in South Korea.

> 'Tag Match Advertising (TMA) combines features of the mobile RFID characteristics and content match advertising model on the Internet. TMA model can be defined as 'an advertising model, based on mobile RFID application, which offers the most appropriate advertisement for users after the consideration of users' demographic information, the location and time when users scan a RFID tag and the content of the tag when users scan it'.

The concept explores the idea RFID readers embedded within mobile devices as opposed to readers fixed to installations in floors or doorframes, allowing continuous transmission of demographical data of the end user whilst facilitating a distribution of further information or content to them based on their interests shown by the scanning of RFID tagged objects. Examples cited include further information about movies, including links to booking information from RFID tags on theatrical posters or scanning RFID tags on objects, like a friend's bag which could perform a search on where to buy a similar item. Both examples cold be linked to discount coupons and costed to the advertiser in a similar manner to cost-per-click (CPC) or cost-per-action (CPA) when information is transmitted to the end user. The benefits discussed surround offering a direct relationship from the consumer to the advertiser and bypasses the need for 'searching' online via product name and offers immediacy for the interested party whilst allowing real-time updates to CRM systems for advertisers.[173]

The model has merits and is likened to Google's *AdSense* or Omniture's *Content Match* which serves a direct ad based on the context of surrounding content in a similar way to traditional print ads appear next to content in a magazine or newspaper, i.e. article on the Great Barrier Reef shows a

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[171] *Information gleaned from:* http://www.technovelgy.com/ct/Science-Fiction-News.asp?NewsNum=981
[172] Jun Lee, K. & Jun, J. *Tag Match Advertising Business Model in Mobile RFID Environment*. 11 November 2008. *Available at:* http://doi.ieeecomputersociety.org/10.1109/ICCIT.2008.235
[173] *Id*

related ad for holidays to Australia. With RFID *Tag Match* there is a more direct link to the person, time and location via GPS in a way that goes way beyond both traditional print and current online methodologies. The merits however are only seen if it can indeed be supported by consumer opt-in to only reveal further information at a user's request.

In an email exchange with Professor Kyoung Jun Lee, he feels Tag Match Advertising is "just the NFC or RFID version of 'content match advertising' and therefore, all the policy, ethics, and legal issues will be almost the same with those of existing 'content match advertising' in other medium."[174]

However I do not think that it is this simple at all. Questions of RFID reader's openly scanning people's personal possessions without security are a highly debatable area, if someone is not wishing for someone to know something about them. As much as a friend may wish for ease of use purposes to scan your bag to find out where to buy one, similarly a thief may equally be on the hunt for other reasons. There clearly needs to be a permission-based system in place and not purely open RFID.

Implications of the Internet of Things

Adam Greenfield, Head of Design at Nokia,[175] calls it *Everyware*, in as much as micro-computers are embedded *everywhere* in the environment. His view is that the human being should be central to the systems that are being built and feels that the window of opportunity to influence for an acceptable result is 'very narrow and upon us as technology and business takes the stage.'

> *"My concern is that as we make the decisive turn towards ubiquitous computing, we run the risk of designing not merely technical systems, but in fact a world where the human being and our fundamental prerogatives of privacy, sanity and serenity are overwhelmed at all times and in all places."[176]*

The issue is clearly highlighted in utility companies wishing to monitor usage of a *Smart Grid*, which effectively takes personal data from within the home, outside it. Whilst a Smart Grid that monitors energy usage naturally poses benefits to consumer and environment alike, it too presents new privacy risks as near real-time consumption data of energy and appliances show a granularity of personal data and such as 'when a family is home or away, when family members are engaged in

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[174] Taken from an email exchange with Professor Kyoung Jun Lee on 2 December 2009.
[175] *Information gleaned from:* http://speedbird.wordpress.com/about/
[176] Taken from a presentation given by Adam Greenfield at Keio University's DMC Institute, Tokyo, Japan on July 15, 2006. *Available at:* http://www.youtube.com/watch?v=RMXox8IJvmE

activities such as cooking or sleeping, and when appliances such as medical devices or home spas are in use.' It is crossing the boundary into profiling an intimate portrait of family lives.[177]

Though commercial organisations are not necessarily pushing or the tagging of every individual as such, they certainly are pushing for the tagging of every single item – and the ones most prone to benefit of such, dismissing concerns[178] and without clarity on how and if dormant RFID can be 'reawakened' by proximity to another scanner later on. It is a process that is exasperated given the challenges and implications of such widespread adoption and the change in communication habits between global citizens. EU Commissioner Viviane Reding recently cited 'three technological and commercial developments that have particular implications for privacy: social networking, behavioural advertisement and RFID "smart chips".'

> *"The latest technology trend that is affecting privacy is smart chips, the famous RFIDs. While they can make businesses more efficient and better organised, I am convinced they will only be welcomed in Europe if they are used by the consumers and not on the consumers. No European should carry a chip in one of their possessions without being informed precisely of what they are used for, with the choice to remove or switch it off at any time. The* 'Internet of Things' *will only work if it is accepted by the people."*[179]

It brings to bear an ethical and moral discussion surrounding *Digital Citizenship* and the dilemma for living safely and efficiently in an included online world through unparalleled access to open communication forums as we all participate in a broadly-based cultural transformation.[180] Scientific progress and technology has shrunk us to a global village at ever increasing speeds leading a sense of nauseousness as things appear to go out of control.[181] We used to talk about culture in terms of pre-Enlightenment, or pre-Industrial revolution, yet now we find ourselves discussing pre-Broadband or pre-iPhone, such is the speed of change.[182]

Though governments can clearly and rightly assist in helping steer this change, affording too much power for security purposes could lead to corruption and move us back to situations akin to Nazi Germany. Politicians seem inconsistent in their arguments over tracking people – wishing for ID

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[177] Wang, L. & Eraker, L. *"Privacy by Design" in the Smart Grid*, 3 December 2009. *Available at:* http://www.cdt.org/blogs/cdt/privacy-design-smart-grid

[178] RFID Buzz. *Tesco CEO rejects RFID privacy worries*, 7 April 2004, http://www.rfidbuzz.com/news/2004/tesco_ceo_rejects_rfid_privacy_worries.html

[179] Viviane Reding, "A European Digital Agenda for the New Digital Consumer," *Europa*, 12 November 2009, http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/09/524

[180] Tolbert, C.J. McNeal, R.S., Mossberger, K. *Digital Citizenship: The Internet, Society, and Participation* (Cambridge, MA: Mit Press, 2007).

[181] Pesce, M. *Digital Citizenship*, 15 April 2009, http://blog.futurestreetconsulting.com/?p=132

[182] Shute, T. *Towards a Newer Urbanism: Talking Cities, Networks, and Publics with Adam Greenfield*, 27 February 2009, http://www.ugotrade.com/2009/02/27/towards-a-newer-urbanism-talking-cities-networks-and-publics-with-adam-greenfield

people for national security, yet not for advertising. Governing bodies seemingly want to foster capitalism providing it does not conflict with their own socio-political interests and can indeed be harnessed for gain. The concerns of the consumer are voraciously protected, as well they should. Yet the consumer equally is wishing for technological change and personalised and open access to content and information. This tension needs to exist so that either side of the socio-political organisations pulls the other towards finding a stable middle ground to shape progress.

It also highlights the socio-political tensions that exist as much now as in Hellenistic times of Plato concerned with governments and morality in his book *Republic,* which highlights the differences in justice between the rulers can do and what they impose on their citizens,[183] or later in the Roman era of the poet Juvenal who uttered the phrase *'quis custodiet ipsos custodes?'* translated as 'who watches the watchers?'[184] Both are investigating the concept of 'power' as it relates to culture, politics and economics, which are now being thrashed out now in a multi-cultural world stage, not just at national level. Adam Greenfield brings us up to date,

> *"The networked objects which are increasingly populating our lives and our cities already generate torrential, unceasing volumes of data about our whereabouts, activities, and even our intentions. How can we ensure that this data is used for the equal benefit of all? What provisions regarding such objects should citizens demand of their municipal governments? How might the juridical order respond most productively to the presence of these new urban actors?"[185]*

Paternalistic power

Trying to address the development of experimental scientific revolution in the religious Middle Ages, Sir Francis Bacon is attributed to coming up with the famous aphorism *'ipsa scientia potestas est'* in his *Meditationes Sacrae,* translated as 'knowledge is power'.[186] It is thought that Bacon was paraphrasing Proverbs 24:5: "A wise man has great power, and a man of knowledge increases strength." The phrase implies that with knowledge or education a person's potential or abilities in life will probably increase, as both having and sharing knowledge is the basis for improving one's reputation and influence, thus power. Paradoxically, it can also be seen as a justification for reluctance to share information as some form of advantage can be gained through the use or manipulation of knowledge. This latter part fits with our term 'consumer in control' as opposed to

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[183] Information gleaned from: http://www.friesian.com/plato.htm

[184] Taken from stanza 345 in the *Satires of Juvenal*, online at: http://www.thelatinlibrary.com/juvenal/6.shtml

[185] Greenfield, A. *Toward urban systems design*, 11 October 2009. *Available at:* http://speedbird.wordpress.com/2009/10/11/toward-urban-systems-design

[186] NationMaster Encyclopedia, *Scientia potentia est*, 20 November 2009. *Available at:* http://www.statemaster.com/encyclopedia/Scientia-potentia-est

handing over all power to the state where we could assume that as John Dalberg-Acton later states, if 'power tends to corrupt, absolute power, corrupts absolutely.'[187]

Tim Jordan takes us into further exploration in his book *CyberPower* asks the question 'if knowledge is power, then what kind of knowledge leads to cyberpower?' He discusses three types of power: Power as possession in order to force actions upon another, such as someone wielding a gun; power as social order in terms of accepted norms for maintaining balance as we go about our business, such as adhering to traffic lights; power as domination as seen in equality between people such as one persons wish to play music loud, and the others offense at it as it upsets cultural balance.[188] His argument is that in order for balance to be achieved personal expression must be held within the tensions of technological boundaries, without technology or the companies behind them overruling the individual's experience. It is a blurring of the socio-political rules that govern everyday life where the premise from a person's level is 'do I want [this] to be a normal part of society when I can't speak freely here or type an email here or write a letter there or in case I do something wrong?'[189]

A philosophical investigation into the Internet was also addressed by Graham Gordon, who questions how the Internet affect our concepts of identity, moral anarchy, censorship, community, democracy, virtual reality and imagination as we step into our technology future? Drawing on parallels in the Luddite movement in the nineteenth century where textile factory workers in Northern England smashed machinery, as they feared their jobs and livelihoods were at stake as they opposed technological innovation and were harshly crushed in their quake. So we now find modern neo-luddites opposing the development of information technology and the Internet, whilst technophiles dismiss any concerns as they rush to create a technical 'cornucopia that will remedy all ills.' Gordon suggests that discussions around the Internet are widely exaggerated and will neither achieve the optimism or pessimism being proposed, but will find a symbiotic balance with mankind as those most excited by the technology will also seek to address the problems as and when they arise.[190]

The concept of 'knowledge is power' was certainly shown in the exaggerated optimism in the early days of the online industry and the drive of *dot.com boom* of the mid-nineties in the desire to collate and analyse everything. It subsequently hit a tipping point and crashed as companies failed to deliver tangible financial transactions on the back of all the collated data.[191] It did not cease to exist however, but came to a more balanced approach as the technologists made themselves accountable. The same implications could equally be seen by governing bodies that rush to collate

[187] *Information gleaned from:* http://en.wikipedia.org/wiki/John_Dalberg-Acton,_1st_Baron_Acton
[188] Jordan, T. *Cyberpower: the culture and politics of cyberspace and the Internet* (London: Routledge, 1999).
[189] Doctorow, C. *Britain's new Internet law -- as bad as everyone's been saying, and worse. Much, much worse.*, 20 November 2009. *Available at:* http://boingboing.net/2009/11/20/britains-new-interne.html
[190] Graham, G. *The Internet: a philosophical inquiry* (London: Routledge, 1999).
[191] *Information gleaned from:* http://en.wikipedia.org/wiki/Dot-com_bubble

data on their citizens who could equally find themselves in a backlash through an undetermined event at some point through unfulfilment of promises or from overstepping the mark which will resulting a redress of spread of power.

We are truly seeing a move towards information processing dissolving into human behaviour as we develop addressable, queryable, scriptable objects using RFID designed to improve our lives. On one side it is the concept of walking down the same street hundreds of times, then technology embedded in a phone can offer up new information about it, in the same way a local historian or artist may show you things you had never noticed before. The flip side, however, is that context-awareness can try to cross-reference this with other states of being and try to read the phones *last.fm* music playlist to make an informed choice and instead delivers inappropriate information.[192]

From a marketing perspective knowledge of entry into *Mamas and Papas* store, or access to their website on one particular day, and serving a sequenced ad on a mobile phone on subsequent day as the lady walks into a hospital, without knowledge of a miscarriage the previous evening could have huge ramifications and backlash. It would be difficult enough for a friend to phone to ask about the child not knowing the circumstances, but from an advertising perspective it would be most unwelcomed in such adverse conditions. Without the unfortunate miscarriage, the note of well wishing on behalf of the brand and an offer of a gift upon leaving the hospital may in fact be incredibly appreciated by the new mother. Therein lies the dilemma.

Adam Greenfield is offering a note of caution as we rush into the *UbiComp* world stating that designers must build protective measures into this digital environment to maintain a balance between technology and people's sense of wellbeing when all things are visible on the *grid*, from every car to every can of Coke to every breath of energy drawn into our homes.

> *"This is not paternalism: in fact, it is just the opposite. Where paternalism is the limitation of choice, all I am arguing for is that people be informed just what it is they are being offered in everyware, at every step of the way, so they can make meaningful decisions about the place they wish it to have in their lives."*[193]

It is also the view of *Preemptive Media*, who are a group of artists, activists and technologists who are developing independent research through beta tests, trial runs and impact assessments. They have set up *Zapped!*, which is seeking to learn about and respond to the industry embracement of RFID. They state '*Zapped!* is not encouraging paranoia, but rather participation and preparation.'[194]

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[192] *Supra note* 182
[193] Greenfield, A. *Everyware: the dawning age of ubiquitous computing* (Bereley, CA: New Riders, 2006). p226
[194] *Information gleaned from:* http://www.preemptivemedia.net/zapped/index.html

I applaud these sentiments as they are opening discussion into highlighting where technology has holes currently, and in doing so creating an eagerness to fill the gaps, whether from a technical, social, economic or political point of view. It highlights the need for ethical discussions that are trying to shed an open light and discover truth in this RFID debate. It would seem it is not even about what is true; it's what we think is true. Even when presented with facts, to question somehow makes us an outlaw, a conspiracy theorist – yet thinking and knowledge and truth cannot be totally separate.

Seeking truth

In establishing a methodology for trying to ascertain such huge socio-political changes we cannot rely upon any kind of tangible *action-inquiry* models where we can observe and measure impact in one area upon another because much of this discussion is both philosophical in its nature and distant from us. With this in mind it is worth exploring the social research method of *inductive reasoning* where we can look at specific facts at hand to create a theory that can help explain the relationships between those facts whilst allowing us a prediction of future knowledge.[195]

Inductive reasoning gives us an open-ended and exploratory framework for us to look at specific observations and measure data points, begin to detect patterns and ascertain regularities within them, formulate some tentative hypotheses that we can explore, in order to develop some general conclusions as to how things may develop.[196]It means we need leave certain preconceptions or deduced formal logic that binds and explore both sides of the debate in order to find a balanced and harmonious approach. This follows on from what Sir Francis Bacon once famously said,

> *"Men have sought to make a world from their own conception and to draw from their own minds all the material which they employed, but if, instead of doing so, they had consulted experience and observation, they would have the facts and not opinions to reason about, and might have ultimately arrived at the knowledge of the laws which govern the material world."[197]*

In discussing philosophy it also is worth thinking about *propositional knowledge* "knowing that" as opposed to *procedural knowledge* "knowing how". We may *know that* 2+2=4, but *knowing how* do something like add those numbers together and is separate entity.[198] Epistemology is the

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[195] *Information gleaned from:* http://en.wikipedia.org/wiki/Inductive_reasoning
[196] Trochim, W.M.K. *Deduction & Induction*, 20 October 2006. Available at: http://www.socialresearchmethods.net/kb/dedind.php
[197] Jared, *Francis Bacon | The Modern Scientific Method*, 20 September 2008. *Available at:* http://hubpages.com/hub/francisbacon
[198] *Information gleaned from:* http://en.wikipedia.org/wiki/Epistemology

philosophical term attributed to *knowing that* contained with propositional knowledge. The reason being is that we *know that* UbiComp, RFID and addressable advertising are points for current and future development, but having all the finalities of *knowing how* to do it or how it will be received is still very much an unknown, and will involve a lot of trial and error as we seek to build an appropriate framework that is acceptable for all parties.

Where we may *believe* something to be true, it does not necessarily mean it is. But beliefs can dictate our actions. I may believe UbiComp and RFID is going to solve all the world's problems, however it could just as easily destroy the fabric and diversity of creativity seen in human life by reducing us to robotic slaves. Similarly I could believe that UbiComp is intrinsically evil and avoid it at all costs and in doing so miss some of the key developments that could be afforded by the technology such as safety and efficiency. Similarly for addressable advertising, we can believe it to be evil, but the truth is that it could just help you become aware of and locate something you have desiring but were not aware of what, where or how to obtain the item or service on offer, such as information on giving up smoking. 'Belief therefore is a subjective personal basis for individual behaviour, while truth is an objective state independent of the individual.'[199]

Knowledge therefore lies somewhere in between *belief* and *truth,* and future knowledge lies somewhere in between our current experience and observations, doused with awareness of history, and determined through social, economic, poetical and cultural norms.

We can also see Bacon's statement[200] in discussions within *Post Structuralism*, which is derived from contemporary philosopher Jacques Derrida's thoughts surrounding *deconstruction* in interpreting texts presented to us.[201] It therefore holds self-perception as pivotal role in understanding the world around us, arguing that the concept of 'self' as a separate entity is fictional, where as an individual is actually determined within the tensions between conflicting knowledge claims such as gender, race, class profession, etc.[202] determined through sociology. In this way it sheds the rigours of structural process and embraces some of the more humanistic interests or values,[203] which can open the door to ethical considerations. It also outlines a thought process for investigating the facts at hand by using a variety of perspectives to create a multifaceted interpretation of the data presented in order to make your own conclusions based on your own unique circumstances, rather than purely mine, or that which the media portrays to be true, for example. It encourages to dig deeper, to read between the lines to determine a bigger picture through critique. As there are many contentions surrounding

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[199] *Id*

[200] *Supra note* 197

[201] Internet Encyclopedia of Philosophy, *Jacques Derrida (1930—2004)*, 13 July 2005. *Available at:* http://www.iep.utm.edu/derrida/ (accessed November 25, 2009).

[202] *Information gleaned from:* http://en.wikipedia.org/wiki/Post-structuralism

[203] *Information gleaned from:* http://www.knowledgerush.com/kr/encyclopedia/Post-structuralism

RFID, it is important for us to not see things as self-serving through the bias of any writers but seeking a flexible, open approach.

From a sociological point of view, Ferdinand Tönnies presents us two types of social groupings: *Gemeinschaft* and *Gesellschaft*, the former stressing family or community relationships, the latter stressing individualism and groups within society. The importance here is that as opposed to the bonds of blood being thicker than water, *Gesellschaft* sees social ties as more superficial, with self-interest and exploitation increasingly the norm and this was especially true as he criticized the growing popularity of Nazism in his own country.[204] This has value for us to look at the commercial or political drivers within this technology that can stand in juxtaposition with what we wish to happen within the privacy of family life, which are seen as invasive and *Big Brother-ish*.

We can complement this with the work of 19th Century philosopher John Stuart Mill's essay 'On Liberty.'[205] His key sentiment was "over himself, over his own body and mind, the individual is sovereign". Speaking into the tyrannical Victorian society in which he lived and found oppressive, his work discusses the nature and limits of power that should be legitimately exercised by society over an individual. He sees the answer in the citizens own liberty becoming the moral conscience and yard stick for measuring authoritarian control. In doing so, he advocated both moral and economic freedom of individuals from the state, which he calls the 'tyranny of the majority', wherein through control of etiquette and morality, society is an unelected power that can do horrific things.[206]

What is right?

As a *Utilitarian*, Mill's justifications do not rest on any form of natural rights or external definition of 'morality' but rather on the fact that he believed certain freedoms – to think as one wishes, to pursue tastes and wishes, and unite with others – would bring positive consequences for society. His aim as a liberal was for 'the greatest happiness for the greatest number of people' and regarded *utility* – the good to be maximized – as the ultimate appeal on all ethical questions.[207] A moral worth of an action is therefore determined by its outcome and what is deemed best for the masses, expressed in the consequentialist aphorism 'the ends justify the means.'[208]

The problem with this approach is there is no agreement on what 'good' means either quantitatively or qualitatively. If morality is to bring the greatest good then what exactly is 'good'? Either right or wrong are determined against each other, which is circular reasoning, or good must be determined by some standard beyond the Utilitarian process. It also fails to denote what is good in the short

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[204] Deflem, M. *Tönnies, Ferdinand (1855-1936)*, ed. Edward Craig (London: Routledge Encyclopedia of Philosophy, 2001).
[205] Stuart Mill, J.S. *On Liberty*, People's Edition (London: Longmans, Green & Co., 1913).
[206] *Information gleaned from:* http://en.wikipedia.org/wiki/John_Stuart_Mill
[207] *Information gleaned from:* http://www.utilitarianism.com/ol/one.html
[208] *Information gleaned from:* http://en.wikipedia.org/wiki/Utilitarianism

term, seeking instead to define good in the long run, which no human can accurately predict, thus making it useless. The utilitarian approach of freedom providing it does not cause harm, which is defined, as taking the form of either physical or moral compulsion, is open to interpretation throughout multi-culturalism and individualism and again gives potential rise to moral chaos.

The *teleological* view within Utilitarianism here would penalise a person for failing to rescue a drowning man as no good came of it. Even if we said there was a good effect on society as it encouraged others to do the same, it still does not say the act of rescue was good in and of itself. A *deontological* view however would see the good in the rescue act in and of itself even if the outcome ultimately fails, taking the premise 'it is better to have loved and to have lost, then to never have loved at all'. It is good to work against bigotry and racism and oppression even if one fails. Success and failure do not determine 'goodness'.[209] Good in this regard is not seen as a lottery, but rather in the premise that the winner is not always right. Good therefore needs to be determined outside of our individual selves and culture by a higher premise, not in an authoritarian way, but from a stand point determined by a nature of God-given moral law. This brings about norms that provide a framework for healthy living whilst embracing a freedom of expression and appreciation of diversity, as opposed to imposed dictatorial rules.

In contrast to the results focussed utilitarianism, is the quotation generally attributed to philosopher Edmund Burke, 'The only thing necessary for the triumph of evil is for good men to do nothing.'[210] It is these concepts we must keep front of mind as we explore the implications of a more pervasive society and seek to find an ethical and moral framework in which to develop a healthy acceptance of technological progress that benefits all and not imprisons the masses, through design or fault.

Establishing the need

Before we get embroiled in near-future NFC/RFID debate directly, let us first take a look at where things are regards to the world of advertising and its current relationship to content in order to gain perspective. This will explore the commercial interest driving exploration into RFID advertising.

Media wastage

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[209] Geisler, N. L. *Christian Ethics* (Leicester: Apollos, 1989). pp20-25.
[210] *Information gleaned from:* http://en.wikiquote.org/wiki/Edmund_Burke#Probable_misattribution

John Wanamaker famously said, *"I know half the money I spend on advertising is wasted, but I can never find out which half."*[211] He added that 'if you can identify a receptive market, advertising dollars will go much farther.'

Over the last few years marketers have become increasingly dissatisfied by print, broadcast and other traditional advertising and marketing results, and have slowly but surely been shifting ad dollars to the Internet. Yet despite the sharp increase in Internet ad spending over recent years, advertisers are still spending far less of their budgets on the web when compared to the time consumers spend online. Recent analysis suggests that online advertising to consumer time ratio is circa 50%.[212] One hundred and thirty five years after Mr. Wanamaker created the first ever copyrighted store advertisement;[213] it seems we can still not determine which fifty percent is wasted.

What we do know is that TV viewing is shrinking, and at very least is being watched across a plethora of devices from computers, portable devices[214] or even in cars and very often simultaneously whilst doing other things, like browsing the web.[215] This has been followed by a number of advertisers who debate the media dependency they once showed towards television, the most dominant of media channels that typically covered 50% of ad spend.[216]

Cadbury's who claim their sponsorship credits as being 'the most universally recognised and best loved in television history'[217] which had delivered a 35% consumer brand recall, ended their £10m-a-year sponsorship of ITV's soap opera *Coronation Street* in 2006, the largest TV media deal seen outside of the US. The reason stated was that *"Right now, we felt it [television] didn't meet the needs of our marketing strategy."*[218] They went on to famously relaunch the *Wispa* chocolate bar as a result

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[211] John Wanamaker (11 July 1838 – 12 December 1922) was a United States businessman, civic and political figure, considered the father of the department store and the father of modern advertising. Wanamaker was born in Philadelphia, Pennsylvania.

[212] *Information gleaned from* Digital Ad Spending: Still at Index of 50% vs. Consumption. *Available at:* http://strategyoutfitters.com/digital-ad-spending-still-at-index-of-50-vs-consumption

[213] *Information gleaned from* Who Made America: John Wanamaker. *Available from:* http://www.pbs.org/wgbh/theymadeamerica/whomade/wanamaker_lo.html

[214] Riley, D. *45% of Europeans watch TV online: Motorola Study*, 3 May 2007. *Available at:* http://www.techcrunch.com/2007/05/03/45-of-europeans-watch-tv-online

[215] *Information gleaned from* Ofcom Communications Market Report. *Available at:* http://www.ofcom.org.uk/research/cm/cmr09/cmr09.pdf

[216] ZenithOptimedia, *Ad Spend to Grow 6.7% in '08, Internet to Overtake Radio in '08 & Mags in '10*, 3 December 2007, *Available at:* http://www.marketingcharts.com/television/ad-spend-to-grow-67-in-08-internet-to-overtake-radio-in-08-mags-in-10-2596

[217] Quote from *Louise Cooke, Marketing Director, Cadbury Trebor Bassett.* Available at: http://www.itvmedia.co.uk/insights-and-effectiveness/case-studies/sponsorship/cadbury

[218] BBC News, *Coronation Street loses sponsor*, 14 November 2006. *Available at:* http://news.bbc.co.uk/1/hi/business/6148006.stm

of online social media and saw profits increase.[219] A similar story from clothes retailer *Gap* made headlines in 2008 after it admitted following suit to the consumer shift away from TV and reduced advertising spend by 18% and saw profits soar by 40%.[220]

Though not accurate by any measure, it is a widely held assumption that around 10% of a company's turnover is allocated to marketing.[221] This will vary downwards for industrial business-to-business, and potentially upward for some companies marketing consumer packaged goods. ZenithOptimedia puts the estimated value of global advertising spend at around $454Bn[222] (2007 figures) and had predicted a growth of $56bn in total between 2008 and 2011 equating to 4% in 2009,[223] yet economic pressure has actually seen -9.9% in 2009.[224]

According to research from Morgan Stanley relating to the US, looking at time spent with each media, print currently attracts over double the advertising revenue in proportion, and TV attracts at least 8% in favour of advertising.[225] It would seem no surprise then that the largest drop In advertising revenue in 2009 has been seen in print which is predicted to continue to significantly decline over the next 3 years, -19.1% for newspapers, where as TV, Outdoor, Cinema look set to return to profit in 2010 followed by radio in 2011. Online however is the only medium maintaining a profit in 2009 at 9.2% and would look set to grow.[226] Research shows there is still at least $30Bn deficit in the US of time spent to online advertising ratio.[227]

What this is showing is that advertisers globally are demanding more accountability for the ad dollars they are investing,[228] however they are still struggling to come to terms with the power of digital advertising compared to the safe and favoured mass-media, such as television.[229] The exception to

[219] Charles, B. *Wispa relaunch bolsters Cadbury results*, 26 February 2009. *Available at:* http://www.marketingmagazine.co.uk/news/884338/Wispa-relaunch-bolsters-Cadbury-results

[220] Zmuda, N. *TV Ads 'a Waste of Money' for the Back-in-Black Gap*, 26 May 2008. *Available at:* http://adage.com/abstract.php?article_id=127310

[221] Information gleaned from: http://www.score.org/m_pr_11.html http://www.in-business.org.uk/how-much-money-do-businesses-spend-on-advertising-each-year/ http://blackfriarsinc.com/blog/2005/01/marketing-as-percentage-of-revenue.html

[222] *Information gleaned from:* http://www.zenithoptimedia.com/home/

[223] Andrews, A., Mason, R. *Global advertising spend to tumble $21bn.* 7 Dec 2008. *Available at:* http://www.telegraph.co.uk/finance/newsbysector/mediatechnologyandtelecoms/3659492/Global-advertising-spend-to-tumble-21bn.html

[224] Durrani, A. ZenithOptimedia downgrades global ad spend for 2009 to -9.9%. 19 October 2009. Available at: http://www.mediaweek.co.uk/news/rss/946435/ZenithOptimedia-downgrades-global-ad-spend-2009--99/

[225] Information gleaned from *Morgan Stanley research*, presented at Yahoo! Investor Day, October 2009.

[226] *Supra note* 224

[227] *Supra note* 225

[228] DoubleThink, *How much should you spend on marketing?*, 5 May 2009. *Available at:* http://thedoublethink.com/2009/05/how-much-should-you-spend-on-marketing

[229] NielsenWire. *Global Ad Spend Still Down, but Showing Signs of Improvement.* 1 October 2009. *Available at:* http://blog.nielsen.com/nielsenwire/consumer/global-ad-spend-still-down-but-showing-signs-of-improvement/

this is in the UK where online ad spend has now topped TV spend, though caution needs to be heeded in this environment due to the largest TV channel, BBC, not taking advertising.[230]

Targeting in some form of another exists within all advertising media, and data is collated through a variety of methods in order to ascertain better planning and buying in the future. Whether that is through panel data or esoteric figures based on formulaic calculations, the data is not accurate enough to ascertain actual consumer behaviour and therefore able to predict Wanamaker's 'which half?'[231] Looking at global figures that is equating to over $200Bn in wasted advertising per year and what is more daunting, is that it represents a sizable percentage of a any given companies turnover.

Huge amounts of wastage exist across media disciplines too. In Direct Response Marketing such as direct mail, e-mail, telemarketing or infomercials, 1 in 100 (0.5-1.0%) are acceptable response rates to cold lists, doubling if sending offers to existing clients bases or rising higher still to targeted lists. For high value items, responses are much worse. The Direct Marketing Association (DMA) in their 'Response Rate Report'[232] puts the average response rate for direct mail across all sectors at 1.65%, which is considerable wastage as 35% marketing budgets are in the Direct Response sector.[233]

In online we have come to expect much worse figures, click-thru figures for display advertising are around one tenth of a percent (1:1000)[234] rising to three in a thousand for richer formats.[235] Though this negates the visual engagement, interaction or view through of any given creative – namely I see then I perform a task immediately within the creative or via investigation elsewhere through search to arrive at a website – this metric is still seen as the *de facto* measurement of response in online advertising. As a comparison, prospect email lists can achieve 5.57% CTR according to the DMA.[236]

The need for relevancy

Half a century ago, David Ogilvy is credited with saying 'All advertising should… connect an individual person's needs to a business that can offer that individual value… The more informative your advertising, the more persuasive it will be.'[237] The art therein is in understanding how consumers react to advertising and how it affects their behaviour, in order to select the right media mix. We do

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[230] Pfanner, E. *Rate of Decline in Global Ad Spending Slows, Report Shows.* 30 September 2009. *Available at:* http://www.nytimes.com/2009/10/01/technology/internet/01ads.html

[231] *Supra note* 211

[232] *Report available at charge from:* http://www.the-dma.org/cgi/dispannouncements?article=1255

[233] Print in The Mix, *2009 Direct Marketing Campaigns - Overall Response Rates (Offline)*, 16 March 2009, http://printinthemix.rit.edu/fastfacts/show/233

[234] *See:* http://www.doubleclick.com/insight/downloadResearch.aspx?fileName=dclk_2008benchmarks_0906.pdf

[235] *Information gleaned from:* http://www.eyeblaster.com/data/uploads/ResourceLibrary/Eyeblaster%20Research%20Global%20Benchmark %20Report%202009.pdf

[236] Ferrante, A. *New DMA Response Rate Study Shows Email Still Strong For Conversion Rates*, 16 March 2009, http://www.demandgenreport.com/home/archives/feature-articles/183-new-dma-response-rate-study-shows-email-still-strong-for-conversion-rates.html

[237] *Information gleaned from:* http://www.brainyquote.com/quotes/authors/d/david_ogilvy_3.html

this by finding out what needs and values motivate an individual internally and triggering primeval senses.[238] If advertising can offer something that strikes a chord with those needs and values, they will be motivated to respond favourably, and potentially leave footprints that can be measured.[239]

The promise of digital advertising is not just in interactivity and the ability to enhance the sensory engagement but the in the dynamic delivery and real-time insertion of content or ads, potentially into any media device as it takes an Internet connection, e.g. BluRay Live which streams additional content, like scheduled Internet chats and downloadable features, to the home device over the Internet.[240] Yet the vehicle of delivery should not just be limited to efficient distribution – consider email versus postage costs – but rather in optimization to the most effective, and relevant message, to the target audience within a determined environment.

David Cohen, Universal McCann Interactive, in discussing *audience composition* highlights that even targeted media buys based on demographics, i.e. assuming it is just teens read teen websites, will only deliver 50-60% of intended audience; 40-50% of the impressions are wasted as they do not reach the intended audience.[241]

Wanamaker thought that 50% of his advertising was effective, but at the time was not able to determine which half. As technology progresses, the ability to change those results could alter outcomes dramatically. Imagine being able to alter the ratio so that 75% becomes effective and 25% unknown – this potentially addresses $100Bn of wasted advertising globally. The first step along this path is awareness.[242]To achieve this goal you need to know something about the viewer of an ad on a web site and this is by understanding where they are in any point in a consumer life-cycle of any given product and then map the message against the goals of the next possible outcome and furthermore deliver this to the location of the consumer at any given point. As marketers pay millions for mailing lists, demographic data, neighbourhood info already it is easy to assume that they would pay more for specific shopping habit information. A recent ComScore study suggests 10% of ads in US are locally targeted at given locations.[243]

Aggregating advertising

[238] Heath, R. 2001. *The Hidden Power of Advertsing*. 2001. Admap Monographs.

[239] Kaess, K. 2001. *The Hidden Power of Advertising*. Low Attention Processing. 2001. *Available at:* http://www.lowattentionprocessing.com/VCC%20Hidden%20Power%2014.4.02.html

[240] Information gleaned from: http://en.wikipedia.org/wiki/Blu-ray_Disc#BD-Live

[241] Cohen, D. *This Half Is Wasted*, 3 September 2003. *Available at:* http://www.clickz.com/3071191

[242] Hallman, H. *Solving the Wanamaker Problem.* 31 July 2006. *Available at:* http://www.hallman.com/esp/presentations/wanamakerproblemb2b.pdf

[243] *comScore Study Estimates that 10 Percent of U.S. Online Display Ads are Locally Targeted*, 9 October 2009, http://www.comscore.com/Press_Events/Press_Releases/2009/10/comScore_Study_Estimates_that_10_Percent_of_U.S._Online_Display_Ads_are_Locally_Targeted/(language)/eng-US

Targeting has always been a component of media buying, through various forms but usually it is grouped to aggregate level and not directly personal except in the case of direct mailers. Most discussions around targeted advertising are linked to context, demographics, location or behaviour. Context is the placement of ads against suitable content,[244] and in this case is exactly how television or print works, e.g. looking at an article in a magazine on French wine and there is an ad offering holidays to Bordeaux. This has not happened by chance, this has happened through the understanding of relevance – it is science leading to sales – the basis of media strategy. Ads are seen as an aid to the publication and at least 50% (in some cases nearer 70%) of all magazine pages appropriated to advertising,[245] which a consumer happily pays a cover price, the value of advertising here is seen in the delivery of generally requested information.

Mass broadcast in the case of display advertising is generally targeted against content or aggregate audience profiles such as gender, if am woman is reading *Vogue*, it is assumed she is curious to find out about new shoes and handbags from leading fashion houses, or worn by celebrities, as an example. Yet other psychographics or socio-demographics such as income can also be taken into consideration, e.g. offering a luxury brand of *Gucci* handbags in *Vogue*, but bargain brands such as *Gap* in lifestyle magazines like *Prima*.[246]

Targeting has been advanced through technology. We have seen localised content and advertising in national newspapers with the adoption of the digital printing press being able to swap content in and out create separate print runs on the fly. We have also seen search engines suggest related content advertising through key words. Similarly we have seen display advertising online becoming contextually aware of content on a page, or being able to be rotated so several ads can be served against the same content all updated in real-time. This differs from print and TV currently which 'locks' the advertising at the time of print or broadcast, looking at yesterday's newspaper sees yesterday's ad where as yesterdays news online has today's ad and possibly multiple versions served in rotation.

As advertising evolves through digital channels, a newer form of internet advertising has proved better at targeting advertisements to consumers and thus more lucrative, namely *Behavioural Advertising*.[247] A variety of methods exist in Behavioural Advertising from monitoring browsing habits, web site history, keyword scraping, search queries, IP addressability, geography, demographics, past purchase history to name but a few, in order to produce a greater degree of

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[244] PC Magazine, *Contextual Marketing.* Available at:
http://www.pcmag.com/encyclopedia_term/0,2542,t=contextual+marketing&i=56351,00.asp
[245] Hoover's, Inc., *Industry Overview: Magazine Publishers*, June 2009, http://www.hoovers.com/magazine-publishers-/--ID__124--/free-ind-fr-profile-basic.xhtml
[246] Gough-Yates, A. *Understanding Women's Magazines* (New York, NY: Routledge, 2003).
[247] *Information gleaned from:* http://en.wikipedia.org/wiki/Behavioral_targeting

granularity in the targeting. The majority of platforms are browser cookie based approaches, or utilizing Flash Shared Objects (a Flash version of the cookie)[248] in the case of richer environments. A unique ID cookie is assigned to each and every visitor to a site or exposed to an ad and allows them to be tracked throughout their online journey, and this can be used with ethnographic profiles built up around grouped habits and are known as *Personas*.[249]

The information on previous browsing and searching habits or known personal preferences can then be used by a Behavioural platform using a rules-based decision to determine which types of content to serve that any given user would find most interesting, and similarly which kind of ad they would be most prone to react to. In the case of *Déjà Vu*[250] or *Boomerang*[251] tags used with third-party ad servers further more detailed information can be added to the profile relating to user habits, which can then be called upon subsequent exposure to a display ad to created highly targeted content.

There is also the option for sequencing creative's, based upon user behaviour either somewhere else online, such as a visit to a website previously, or against behaviour within any given creative in order to make the advertising more relevant to the end user who has shown an interest. Data and knowledge of previous behaviour therefore can determine an appropriate next message to provoke the desirable outcome by the predicting the probable trigger point, i.e. offering more poignant information, a product comparison, a discount coupon, etc. and serve a different creative from a library of possibilities to the consumer dynamically. The goal is to increase relevancy based on the collected data and foster a better conversion rate through the aggregation of creative messages.[252] The overall solution combines the brand impact afforded by interactive digital advertising with online consumer behaviour to provide a more comprehensive and online marketing effectiveness to deliver greater efficiency and reduce wastage.[253]

Knowing where a user *Persona* is in any one moment in time is the art of planning and buying. In an interview, the head of digital at Media Contacts UK, Paul Frampton, said that what gives digital behavioural marketing an edge is the fact that it is based on 'actual' rather than 'predicted' behaviour: *"Consumer magazines and niche TV channels have allowed us to reach consumers who display certain behaviour for years. That behaviour is assumed because of the content or qualitative*

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[248] Singel, R.*You Deleted Your Cookies? Think Again*, 10 August 2009, *Available at:* http://www.wired.com/epicenter/2009/08/you-deleted-your-cookies-think-again
[249] *Information gleaned from:* http://en.wikipedia.org/wiki/Personas
[250] Eyeblaster. *Behavioural Optimization.* Available at: http://www.eyeblaster.com/content.aspx?page=Ad_Features&pageNum=2
[251] DoubleClick, *What is Boomerang?*, June 2008. *Available at:* http://my.doubleclick.com/support/adx/bin/answer.py?hl=en&answer=106125
[252] Yaron Galai', *The Aggregation Paradox*, 1 April 2006. *Available from:* http://galai.typepad.com/blog/2006/04/announcing_the_.html
[253] Basford, B. *Behavioural targeting: How online ads got personal*, 1 June 2006. *Available from:* http://www.brandrepublic.com/bulletins/digital/article/565833/behavioural-targeting-online-ads-personal

research. But behavioural targeting on the web is targeting consumers based on a *real knowledge of their previous behaviour."*[254]

The next generation

The potential to move data across channels, from TV to mobile in a similar manner to sharing across websites is a potential technological advancement that could be developed through RFID and following the concept of how *cookies* are used currently online by third-party ad serving systems. Yet the question remains 'how personal is personal' in regards to targeted advertising? We are to assume consumers must opt-in and data cannot be used for reasons other than why it was collated, lest our financial transactions or whatever are sold to the highest bidder for 'marketing' purposes. Privacy therefore is a basic human right under law and it is seen in the same manner as we have curtains in our home, so we can shut out prying eyes at our discretion.

The Castrol Oil campaign[255] that targeted display ads on billboards against car number plates, for example, raises questions as to how far is too far in terms of advertisers becoming over-familiar. It crosses into murky waters where there is intrusion and disturbing *big-brother* overtones. If we contrast this campaign where data was used surreptitiously with the Mini USA RFID-enabled billboards[256] where the technology was arguably more advanced, and actually personalised the message to specific drivers by name, yet was only targeted against consumers wishing to participate in the program. The effects can be shown in both applauded advancement of the technology and with mostly positive public reactions.

Russell Davies summed it up in an article in *Campaign*,

> *"There's a big and definite difference between volunteering data on a website and having it extracted from you as you drive along the street or surf around the web."*[257]

With consumers terrified of identity theft, and rightly so, a balance must be struck in helping to gain their confidence in accepting advancements in technology. It's a debate we must address as we push forward and find ways to give people things they are interested in without scaring the heebie-jeebies out of them. We can take a view of protesting against this technology at all costs, such as in the way the Campaign for Nuclear Disarmament (CND) has become the largest European single-issue peace campaign fighting not just against nuclear weapons but also against nuclear power stations.[258]

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[254] *Id*
[255] *Supra note* 169
[256] *Supra note* 157
[257] Davies, R. *Media Perspective: Brands must tread carefully around the issue of targeting*, 9 October 2009, http://www.campaignlive.co.uk/news/features/946138/Media-Perspective-Brands-tread-carefully-around-issue-targeting
[258] *Information gleaned from:* http://www.cnduk.org/index.php/about/general/about-cnd.html

Similarly we can strike a balance in finding ways in advanced technology for increased relevance for consumption by the public, in a less offensive way then stealthily sneaking around which will undoubtedly create volatile reactions.

This is certainly the view of well-known privacy advocate Katherine Albrecht[259] when I asked her opinion on using targeting, especially with RFID, in delivering sequenced brand messages and whether this was a matter for governmental policy.

> *"As you can guess, I am opposed to the idea of marketers watching and following us and our purchasing habits. The system you describe is repugnant. As a Libertarian, I am not a fan of government regulation except to the extent that it prevents non-consensual data collection and fraud."[260]*

It is these kind of concerns surrounding targeting in an UbiComp world that gives rise to the notion of needing some sort of 'pocket-sized ad blocker' as consumers traverse the new digital world, like the one described by Alan Dean Foster in his novel *Sagramanda*.

> *"Employing aerogel cameras, adverts designed to appeal specifically to the young, female and middle-to-upper class zeroed in on her repeatedly. The constant battle between manufacturers of pocket-sized ad-blockers and the designers of mobile advertisements had spurred technological leaps among both."[261]*

Questions on personalisation are also being raised in many corners of the web. An article in the *New York Times* asked the four key web players, AOL, Google, Microsoft an Yahoo the question of whether they would put someone's name into an ad online in the same manner a website may say 'hello Dean' after I log in? As each provider collects data through registration procedures,

> *"This is both a technology question and a question about their self-imposed privacy policies. There are some things that companies can do, but they choose not to do."[262]*

Microsoft masks data it collects via advanced algorithms so that it is unable to tie personal data back to an individual consumer. However it does not consider 'first names' or 'nick names' as 'personal' data. AOL has the ability to offer 'name-ads,' only within AOL-owned sites, though currently has no plans to do so. Yahoo is open to the idea of 'name-ads' and could customize ads with people's

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[259] Information regarding Katherine Albrecht can be found at her website: http://www.katherinealbrecht.com/
[260] Taken from an email exchange with Katherine Albrecht on 17 November 2009.
[261] Dean Foster, A.D. *Sagramanda (A Novel of Near-Future India)* (Amherst, NY: Prometheus Books, 2006).
[262] Story, L. *Where Every Ad Knows Your Name*, 10 March 2008, *Available at:*
http://bits.blogs.nytimes.com/2008/03/10/where-every-ad-knows-your-name

registration information, if they are logged in. Google apparently 'might' have the technology be able to serve 'name ads' and they have no current privacy rule against it.[263]

From a third-party ad serving perspective, such as Eyeblaster, no personal data is at any time registered with the system, so the ability to personalise ads by name is impossible to do surreptitiously. Yet as third-party systems work across networks, the ability to move data between websites, such as an advertiser's site and then pull data back into an ad in another site is possible in as much as measuring exposure or behaviour in one area could determine the correctly sequenced creative later on through the use of *cookies*. Because the system sits at a higher level than the publisher or media owner, knowing an ad was shown on Yahoo and interacted with could determine a different ad once a user is then seen on a Microsoft site, for example.[264]Also as they are not tied to a publisher such as Google's *DoubleClick* or Microsoft's *Atlas* ad serving platforms, there is no risk of data being shared between website registration and ad serving, which the others maintain through their respective privacy policies.

Case Study: Sony Ericsson K550

Should a user wish to personalise an advert through voluntarily giving personal information with an ad, the ability to then subsequently personalise a creative does exist and has been deployed in a regional campaign for Sony Ericsson which served as a way of reminding people about weekly competition entries over four consecutive weeks after users could upload photographs of themselves and their name with an ad. The advanced algorithms detected if a user had given information freely and thereby personalised subsequent creatives against those who had not in which case a non-personal ad was shown. The results of the campaign showed a positive effect on both people returning back to enter the weekly competition as well as recommend their friends to participate in the program, as well as highlighted cultural differences in audience participation across the multiple countries the campaign ran.[265]

Case Study: EU Smoking Cessation

Another campaign that a lower level of personalised sequential targeting was used in a campaign aimed at a younger audience to encourage them to quit smoking by showing them personally the effects a cigarette could have in a more applicable and immediate way then health issues late in life.

> *"To drive home the cumulative effects of cigarette smoking, Isobar chose to use Eyeblaster's Behavioural Sequencing feature. When a smoker visited the ad and set the slider to their level of smoking activity, this level was saved on the computer. The next time the user was served*

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[263] *Id*
[264] *Supra note* 250
[265] Information shared from author's own exposure to campaign launch of Sony Ericsson k550 mobile phone that ran across 15 CEEMEA countries over a four-week period in 2008.

the ad, it calculated how many cigarettes that user had smoked since the last exposure, and illustrated the impact of the cigarettes by displaying the smoking fingers in the corresponding level of yellow. Each subsequent time the user was exposed to the ad, the number of cigarettes smoked rose (and the fingers yellowed) – reminding the user of the effect cigarettes have on daily and cumulative bases.

A 10% increase in the click-thru rate after viewers viewed the second ad, reinforcing the fact that Behavioural Sequencing combined with ad frequency made a positive contribution to driving the message home and eliciting a response."[266]

The concept of highlighting visibility to the effects of smoking through yellowing of fingers or teeth, or bad breath struck a chord in a younger audience concerned more with image then long-term risks. The campaign could have been more direct by calculating the cumulative amount of money spent on cigarettes by the individual user over time.

The evil ad

The main contentions surrounding targeting come down to belief systems surrounding advertising per se. One aspect lies in the interests of the public, i.e. security of privacy and the other lies in the fear of being coerced through advertising which amounts to consumer exploitation for commercial gain on behalf of global organisations. The extremities would suggest that people loathe advertising in any form or the belief that advertising has no affect.

In discussing behavioural targeting with Greg Nikolettos from the privacy movement 'We The People Will Not Be Chipped' (WTPWNBC),[267] he stated:

"What they don't say, but clearly is the belief, is that you are information to be indexed. They are monetising me in a means that is evil when I provide a revenue stream to them by using [their] search of which there is no reward back."[268]

The loathing stems from the feeling that a false picture is being painted of a better life that can be obtained through the ownership of [this] product, and the assertion that to be without it somehow makes me incomplete. It is the notion that advertising is lying to people. Advertising creates powerful emotional connections that can leave someone feeling out of control as the Emotion has a greater role than the rational mind in selection decisions. The fact that something or someone is behind this, pulling the strings, leaves a potential anger at people feeling duped into doing something against their will and could lead one to believe that advertising is evil. It can often create

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[266] Eyeblaster, *EU Campaign: Stop Smoking.* 1 June 2008. *Available at:* http://www.eyeblaster.com/Data/Uploads/ResourceLibrary/EU_Tobacco_Case_Study.pdf
[267] *More information available at:* http://www.wethepeoplewillnotbechipped.com
[268] Taken from an email exchange with Greg Nikolettos on 23 November 2009.

a softer reaction that people naively state that 'advertising has no affect on me' and yet a casual glance through their wardrobes, food cupboards or bathrooms may likely reveal otherwise.

The 'ban it' attitude is assuming that advertising has an intrinsic power to persuade the masses against their will according to the 'hypodermic needle theory' or 'magic bullet theory' implying that mass media has a 'direct, immediate and powerful effect on its audiences.'[269] It is a theory prevalent from the 1940's and 50's, which drew on the notion of the Hitler's ability to control media through propaganda during WWII in order to unify the German public behind the Nazi party. It follows the famous radio broadcast on October 30, 1938 by Orson Welles who interrupted radio programming to deliver a news flash about the invasion of Martians from the fictitious book *'War of the Worlds'*. It created mass hysteria among one million of the 12 million Americans who heard the broadcast and the panic ended up redefining broadcast history, social psychology and civil defence.[270]

It similarly gave notion to the concept of subliminal advertising and manipulation in Vance Packard's million-selling book *The Hidden Persuaders* in 1957. Based on Freudian theory, which suggested advertisers manipulate expectations and induce desire for products through consumer motivational research and other psychological techniques.[271] It still has traction today, best illustrated by Jos Dings of the environmental lobby *European Federation for Transport and Environment* who accuses the car industry in playing an active role in 'seducing consumers toward more powerful cars' through advertising.[272] In both cases it is making gross assumptions over the many complex psychological and social factors involved in people making choices over their purchase preferences.

The persuasion of people through media can take many guises but only seeks to support through emotional connectivity attempting to create desire and backed up through the presentation of facts seen in the evidence of hard data, e.g. 'now for the science bit.' Yet equally personal exposure to product, discussion with friends and reading reviews through individual exploration, even smell and taste ultimately determine what becomes a convert or loyal follower. It still comes down to personal choice. Someone can tell you how amazing something is, but if we ultimately have a negative experience or not interested, we just tune out. If advertising alone were so powerful then the Central Office of Information (COI) would have successfully managed to stop everyone smoking cigarettes and eating healthier after 60 years of UK advertising campaigns.[273]

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[269] University of Twente, "Hypodermic Needle Theory," 26 February 2007, Available at: http://www.tcw.utwente.nl/theorieenoverzicht/Theory%20clusters/Mass%20Media/Hypodermic_Needle_Theory.doc

[270] *Id*

[271] Packard, V. *The Hidden Persuaders* (Brooklyn, NY: Ig Publishing, 1957).

[272] *Information gleaned from:* http://ec.europa.eu/reducing_co2_emissions_from_cars/docs/final_report_en.pdf

[273] *Information gleaned from:* http://www.coi.gov.uk/press.php?release=126

However if someone is interested or intrigued they will naturally pursue the conversation further and seek further information. Search online brings results based on my interests, and we expect technology to assist our lives. We accept that computer algorithms can help calculate and know which are the best results and behind the scenes technology is playing a part of analysing data to make things more relevant for us. Similarly display advertising can equally work the same way through sequencing messages through our behavioural actions whether interacting within and ad, clicking on an ad, visiting a website or searching for something online. Each of these touch points can be determined and show another follow up message upon accessing another web page or viewing another screen, e.g. seeing a TV ad that prompts someone to search on a laptop that in turn can show another more relevant display ad in sequence on their laptop, mobile phone, TV or billboard.

In exploring the EU Smoking Cessation case study, one could take the viewpoint that tracking people under any circumstances is 'evil'. One could similarly argue that the advertising in and of itself is 'evil'. This is certainly a view when relating to the promotion of things that are detrimental to society, and why so many countries have regulated or banned advertising related to tobacco.[274] Similarly any interference by any organization, political or otherwise, encroaches on personal freedom of choice and certainly the views expressed upon pro-smoking sites such as *Smoking Lobby Forum*, *FOREST*, or *The Smokers Club* outraged by governmental involvement.

Yet the success of the campaign was two-fold; firstly in selective media buying targeting socio-demographics to narrow down the ad placements just to youths and secondly through waiting to see if someone was interested enough to participate and show interest in the message. A series of messages could be rotated to see which if any triggers a response, which is no different to presenting a variety of choices in a supermarket, and based upon a user's indicating desire to know more than presenting a subsequent message. It is opt-in by its very nature. As the results of this campaign saw an uplift in people clicking through to a website to find out about how to give up smoking it shows both an emotional connection had been achieved and their willingness and desire to know more. If it has the effect of getting more young people to give up smoking and reducing illnesses later in life, can we really argue that behavioural advertising is 'evil'?

David Ogilvy states 'advertising is only evil when it advertises evil things.'[275] We can accept that ads can be annoying, but in most cases their actions are morally neutral. The art therefore is in making the ads less intrusive and less offensive and indeed more relevant – and that is the purpose of behavioural targeting or addressable advertising.

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[274] Yaxley, H. *Is advertising evil? Should we just ban it all?*, 26 February 2007, http://greenbanana.wordpress.com/2007/02/26/is-advertising-evil-should-we-just-ban-it-all
[275] Ogilvy, D. *Ogilvy on Advertising* (New York: Vintage Books USA, 1985).

Joining the dots

Technology is also affording marketers the ability to know precisely where someone is at any moment in time. With land lines we have always know which physical location or address they are calling from, even in phone boxes. Using GPS technology we can already use triangulation to cell phone masts to determine a 10m radius of someone's whereabouts out of the home,[276] and given rise to a number of commercial initiatives to track vehicles or people such as Sprint's *Mobile Locator*.[277] With RFID and the proximity to an NFC reader the position becomes even more granular.

With such a rush to adopt the next great thing whether discussing commercial advantages or simplifying everyday life through ease of use, the question remains if proper thought is being given to any implications of walking seemingly blind into such a connected society.

The resulting controversy

The recent concerns' surrounding user profiling have alarmed and outraged many online users and privacy advocacy groups and remains a continuing debate.[278] As far back as 1999, the public and media have petitioned politicians to intervene after ad server DoubleClick acquired Abacus[279] and proposed to link intimate offline consumer purchase habits of some 88 million catalogue shoppers to their online data and then leverage this 'to provide laser-targeted advertising to its many advertisers'.[280] *Business Week* urged Congress to take action and said:

> *"…who is going to hold DoubleClick – or any other data-mining company – to the promises in their privacy policies?"[281]*

Electronic Privacy Information Center (EPIC) raised a complaint to the Federal Trade Commission (FTC) in the US arguing that 'DoubleClick had deceptively begun to personally identify profiles that it had stated were to remain anonymous.'[282] DoubleClick eventually abandoned the plan, paid a

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[276] Adomatis, D. *Using the GPS for People Tracking*, 20 February 2009. *Available at:* http://www.travelbygps.com/articles/tracking.php

[277] *Information gleaned from:* http://www.nextel.com/en/services/gps/mobile_locator.shtml

[278] Kaplan, D. *Privacy Issues Spur EU Scrutiny Over Behavioral Targeting*, 23 November 2007, http://paidcontent.co.uk/article/419-privacy-issues-spur-eu-scrutiny-over-behavioral-targeting-facebooks-bea/

[279] Macavinta, C. DoubleClick, Abacus merge in $1.7 billion deal. CNet News.com. 24 November 1999. *Available at*: http://www.news.com/2100-1023-233526.html

[280] Pasternack, Dave. Google and DoubleClick: Risky business? DM News. 3 April 2007. *Available at*: http://www.dmnews.com/Google-and-DoubleClick-Risky-business/article/95312/

[281] Stepanek, M.*Washington Must Step In to Protect E-Privacy*, 26 July 1999. *Available at:* http://www.businessweek.com/1999/99_30/b3639036.htm

[282] Electronic Privacy Information Center, *Network Advertising Initiative: Principles not Privacy*, July 2000, *Available at:* http://epic.org/privacy/internet/NAI_analysis.html

$500,000 fine, and agreed to clarify to consumers its data-collection practices within its privacy policy – though actual wrongdoing was never actually admitted.[283]

In 2001 Judge Naomi Reice Buchwald in New York dismissed a case against DoubleClick, alleging that the company 'improperly used or monitored confidential data of web site visitors in delivering online ads.' The issue surrounded the use of 'electronic tags', known as cookies, to monitor consumers' habits on the web in order to deliver targeted digital advertising. The decision was backed by the FTC, which had stated that it did not find the company had violated its privacy policy.[284]

Ten years later, digital advertising has reached the ears of FTC again[285] and also the European Commission who is equally concerned with the collection of personal data, profiling and behavioural targeting.[286] The FTC notes the practices that are concerning to consumer privacy are around the transparency in gathering data especially without consent, the use and security of the data, and the probability that changing business models (and privacy policies) will lead industry to use information in a different way than web users had originally anticipated.[287] This seems to be a more flexible approach having had ten years to monitor the online community and its engagement with both content and advertising, appreciating things move on.

The Internet Advertising Bureau (IAB) as a self-proclaimed governing body for the online industry has equally weighed in with their 'Code of Conduct' surrounding behavioural advertising, stressing that consumers must have the right to be suitably notified and opt-out of any data collection technology. Any companies involved in this process must equally publish clear guidelines for consumers within their privacy policies, with the IAB stating that already 20% of online display was utilising behavioural advertising.[288]

A parliamentary debate which I attended in the House of Commons in London in May 2009, where the IAB proposed the motion *'Legislation cannot secure high standards in commercial communications online'* and the argument was put forward that parliament is not able to move fast enough with technological progress and hence the need for self-governance, citing the fact leading Portals and technology companies had already agreed to abide by the 'Code of Conduct'. The motion

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[283] Olsen, Stefanie. DoubleClick nearing privacy settlements. CNet News. 29 March 2002. *Available at:* http://www.news.com/2100-1023-871654.html

[284] Olsen, S. *U.S. judge drops DoubleClick privacy case*, 31 March 2001. *Available at:* http://news.cnet.com/2100-1023-255028.html

[285] Federal Trade Commission, *FTC Staff Revises Online Behavioral Advertising Principles*, 12 February 2009. *Available at:* http://www.ftc.gov/opa/2009/02/behavad.shtm

[286] European Digital Rights, *Behavioural Targeting At The European Consumer Summit*, 8 April 2009. *Available at:* http://www.edri.org/edri-gram/number7.7/behavoural-target-eu-consumers

[287] Federal Trade Commission, *Online Behavioral Advertising: Moving the Discussion Forward to Possible Self-Regulatory Principles*, December 2007. *Available at:* http://www.ftc.gov/os/2007/12/P859900stmt.pdf

[288] Johnson, B. *Code on behavioural web ads launched*, 4 March 2009. *Available at:* http://www.guardian.co.uk/technology/2009/mar/04/iab-guideline-behavioural-web-ads

against was based around without governmental intervention and adaptation to the law, there was nothing preventing companies changing privacy policies as they saw fit, to meet commercial demands. Personal reflection was posted on my blog entitled 'Online advertising is in the House.'[289] Behavioural targeting was only hinted at in the debate.

The EU Consumer Commissioner Meglena Kuneva has recently created a new industry body under the *Article 29 Data Protection Working Party,*[290] which seeks to protect individuals with regard to the processing of personal data. Kuneva specifically wants to 'address the privacy and consumer protection problems faced by the users of online retail services' and claimed;

> *"10% of European advertisers used [behavioural targeting] in 2007. Only one year later, it had already reached 28%. And almost 60% of advertisers said they wanted to use it this year [2009]."*[291]

This followed a similar initiative in the US in September 2009 where the FTC unveiled a series of public roundtables that focus on the 'effect of modern technology and business practices on the privacy of consumer information.' The roundtables are trying to balance the concerns for consumer privacy, beneficial use of consumer information and technological innovation.[292] In response to that request, researchers at the University of California at Berkeley and the University of Pennsylvania released a study entitled *"Americans Reject Tailored Advertising."* The survey data reported in the study found that 66% of Americans reject targeted advertising online; 86% reject such ads when told they are made possible through online data collection.[293]

The dilemma

I took this issue up directly with Jeff Cole, Director of Centre for Digital Future at USC Annenberg School who has been monitoring global consumer adoption of the Internet over the last eight years.[294] In an email exchange asking if this is 'an issue for governmental policy?' He duly responded;

> *"Study after study show that consumers do not want any information on their personal lives collected and legislators seem happy to 'come to the rescue.' The problem is that consumers are answering reflexively. They are simply asked if they want information collected. They should be asked if they prefer information collected (with safe guards) as a way to not pay for*

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[289] *Available at:* http://deandonaldson.wordpress.com/2008/05/13/online-advertising-is-in-the-house/
[290] *Information available at:* http://ec.europa.eu/justice_home/fsj/privacy/workinggroup/index_en.htm
[291] Out-Law News, *Commission forms industry body to solve behavioural advertising problems*, 16 November 2009. *Available at:* http://www.out-law.com/page-10526
[292] Federal Trade Commission, *FTC to Host Public Roundtables to Address Evolving Consumer Privacy Issues*, 15 September 2009. *Avaialble at:* http://www.ftc.gov/opa/2009/09/privacyrt.shtm
[293] Annenberg School for Communication at the University of Pennsylvania, *Americans Reject Tailored Advertising: Study Contradicts Claims by Marketers*, 30 September 2009, *Available at:* http://www.asc.upenn.edu/news/NewsDetail.aspx?nid=612
[294] Information can be found at: http://www.digitalcenter.org/pages/current_report.asp?intGlobalId=43

content. In other words, if they are so concerned about the collection of information, are they willing to pay to avoid it? Then the answers change considerably. Consumers also are not familiar with advertising that may understand who they are and deliver useful and welcome information."[295]

I tend to agree with this line of reasoning. Certainly consumer habits in regards to purchasing magazines show a conflict in ad acceptance to what they feel regards online. This is possibly to do with the fact that we have come to expect content on the Internet as being free and the historic quality of both online content and advertising being somewhat poorer then the feel of a glossy magazine or indeed television. People have always had the option to flick past ads in magazines and can now skip ads on television (in recorded situations) – especially if they are not relevant.[296]

People also tend to accept that quality entertainment costs money, and whether paying to watch a new film at cinema or at home rental or paying more to see a famous band/singer over local pub band, the assumption is the better the quality, the better the experience, the more it costs in personal outlay – whether hard cash or otherwise. Advertising is the main way to avoid paying for content and the key is to create better quality ads that are both entertaining and informative. Indeed the very name *Soap Opera* – weekly radio serials enjoyed by housewives that moved over to television are still enjoyed by millions and maintain the record for the longest running broadcast shows – derives from the fact that soap manufacturer Proctor & Gamble created quality content in which to situate its products.[297] There is not yet a strong adoption of this concept in a digital arena. Yet even highlighting *Product Placement* on television has now not escaped the lobbyists in UK.[298]

As the demand for better content increases – such as YouTube moving to high-definition and attracting broadcast content from Hollywood – the need for offsetting delivery costs rampage. Google does not break out figures concerning losses for YouTube. Speculators such as Credit Suisse Equity Research have put the figure as high as $470M per year, though recent predictions put it less at $174.2M – the region of between half a million to over a million dollars per day.[299]

[295] Taken from an email exchange on 18 November 2009 between Dean Donaldson and Jeffrey Cole.
[296] Business Week, *The Sound Of Many Hands Zapping*, 26 May 2006. *Available at:* http://www.businessweek.com/magazine/content/06_21/b3985063.htm
[297] *For more information, see*: http://www.proctergambleproductions.com/#/History/
[298] Sarah Johnson, *Lobbyists slam product placement consultation*, 17 November 2009. *Available at:* http://www.marketingmagazine.co.uk/channel/Television/article/967501/Lobbyists-slam-product-placement-consultation
[299] Fritz, B. *Report: YouTube losing less money than thought, happy Hollywood doesn't know it*, 17 June 2009. Available at: http://latimesblogs.latimes.com/entertainmentnewsbuzz/2009/06/report-youtube-losing-less-money-than-thought-and-happy-that-hollywood-doesnt-know-it.html

Would consumers be prepared to pay to view YouTube? Google certainly hopes so as they have recently announced they are going to begin to charge for streaming TV shows on YouTube.[300] They certainly value the service as more than 100M US viewers a month tune into YouTube,[301] and as many as 420M globally,[302] putting it at the 4th most visited website on the web according to Alexa.[303] According to Nielsen, it is the top Entertainment site on the web and currently attracts 24% of display ad revenue for consumer goods category,[304] yet still it continues to make a loss. So the question remains, would consumers be prepared to pay for access to YouTube or trade payment for advertising, or even a combination of both as they do with magazines and SkyTV that operate with both subscription and ad model?

Google has also gone a stage further now that News International backed by Rupert Murdoch, has asked all his news content removed from the search engine as he seeks to enforce the concept that news is a subscription based service online in a similar manner to having to pay for daily papers.[305]

Blurring the lines

Even if consumers are prepared to pay for the convenience and experience, the assumption is if I am paying I still expect my privacy to remain. This may be true historically in terms of television viewing which was clearer cut in the UK with a TV station based on annual subscription (BBC) and another afforded by commercial advertising (ITV); however this too has changed over recent years. The analogue to digital switchover is adopting a two-way communication process between the viewer and the scheduler to better determine content delivery. Cable TV companies have it easier with communication between their set-top boxes;[306] Satellite TV requires a phone-line to be installed. It is widely known that SkyTV monitors your viewing patterns via the phone line and it is linked to the viewing card, removal of the card and the TV ceases to operate.[307] The reasons for doing so are two-fold; firstly to negotiate better deals with buying programs and they claim to have saved 50% in

[300]Chacksfield, M. *YouTube to charge for TV show access?*, 2 December 2009. *Available at:* http://www.techradar.com/news/internet/youtube-to-charge-for-tv-show-access--655485

[301] C*omScore Media Metrix Ranks Top 50 U.S. Web Properties for October 2009.* November 2009. *Available at:* http://www.comscore.com/content/download/3729/70035/file/comScore%20Media%20Metrix%20Ranks%20Top%2050%20U.S.%20Web%20Properties%20for%20October%202009.pdf

[302] Jarboe, G. *YouTube Lets Marketers Think Global or Act Local at WaWa Hoagiefest*, 22 October 2009, *Available at:* http://blog.searchenginewatch.com/091022-201448

[303] *Information gleaned from:* http://www.alexa.com/topsites

[304] *Supra note* 299

[305] BBC News, *Google to limit free news access*, 2 December 2009. *Available at:* http://news.bbc.co.uk/2/hi/business/8389896.stm

[306] *Technique on Cable TV audience monitoring available at:* http://www.patentstorm.us/patents/6567978.html

[307] *Information gleaned from:* http://www.skyviewinghelp.com/faq.html#problem-installing-your-card

negotiations by doing so,[308] and secondly the ability to look at whether there's a pattern in viewing data and subscription behaviour to pass on benefits to both consumer and advertiser.[309]

Sky's concept is to bring together both viewing and purchasing data for broadcasters.

> *"By combining Sky's viewing data with the TNS panels, broadcasters will be able to gain much more insight into viewing habits. For instance, whether viewers react to TV advertising campaigns by buying the goods that are being pushed."*[310]

There does not seem to be half the controversy over monitoring of television habits compared to that of monitoring online – and yet both systems are doing so using similar technology running over the Internet and for exactly the same reason, i.e. commercial profit. Perhaps the 'modern conveniences and economic advantages far outweigh any notions of denying the benefits and comforts, which we amply enjoy.'[311]

What is known is that YouTube's ads are targeted by categorizing what you watch, say and do on this entertainment portal — combined with the other info from Google's ad server DoubleClick[312] – in the first step towards creating profiles on consumers and suggesting both content and advertising that would be deemed relevant to them.[313] I wonder if the same 86% of the 100M US YouTube users would boycott the service if they were fully aware of *'interest-based advertising'* or they would become accepting of the technology in the same way they have become accepting of Amazon product suggestions[314] when they launched *'personalized recommendations'* over ten years ago?[315]

It is something a number of online retailers are in the process of trialling, such as online shoe retailer *Zappos*, who are adopting *ChoiceStream* which is a system to 'send follow-up e-mail messages to customers with product recommendations based on what they looked at on one site, and in turn runs banner ads on other web sites that the shopper visits showing products that they had previously browsed.' Zappos's director of user experience and strategy, Brian Kalma suggests "customers want

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[308] Ruth, J. *Sky Network TV - John Fellet*, 11 September 2003. *Available at:*
http://www.sharechat.co.nz/article/cb196ca4/sky-network-tv-john-fellet.html
[309] MediaWeek, *Storm brewing over TV viewing figures as Sky muscles in*, 27 April 2004. *Available at:*
http://www.mediaweek.co.uk/news/515552
[310] *Id*
[311] Lutz, W.E. *Monitoring Your Movements*, 28 February 1997. *Available at:* http://www.asis.org/Bulletin/Feb-97/lutz.html
[312] Singel, R. *Analysis: Google's Ad Targeting Turns Algorithms on You*, 11 March 2009. *Available at:*
http://www.wired.com/epicenter/2009/03/google-ad-annou/
[313] Wojcicki, S. *Making ads more interesting*, 3 Susan Wojcicki, *Making ads more interesting*, 3 11 2009,
http://googleblog.blogspot.com/2009/03/making-ads-more-interesting.html
[314] Hof, R.D., *Some matches are not exactly made in heaven*, 24 September 1998. *Available at:*
http://www.businessweek.com/1998/40/b3598030.htm
[315] Jacobi, J.A., Benson, E. & Linden, Gregory D., *US Patent 7113917 - Personalized recommendations of items represented within a database*, 26 September 2006. *Available at:*
http://www.patentstorm.us/patents/7113917.html

relevant content delivered to them, they want things that speak to them, not just blanketed targeting" and has such adopted to take a more cautious approach for the mean-time for fear of reaction. In doing so Zappos has already seen 3% uplift in sales and a 20% increase in page views per visit, showing positive consumer acceptance.[316]

Other websites have also come under the spotlight, such as Facebook and their *Beacon* program. In 2007, over 50,000 members of the community signed a petition online after Beacon alerted Facebook, friends and businesses what someone had been up to, which was felt to be an intrusion.[317] It operated as an 'opt-out' model, with the notification message considered to be a 'blink and you miss it'.[318] It was forced to move back to an 'opt-in' model. The movement began with civil rights site MoveOn.org and a campaign called *'Facebook is ruining my Christmas'[319]* citing someone's girlfriend who had bought an item online, that then appeared in her boyfriend's 'mini-feed' and thus ruining the surprise.

In 2008, a spate of 'virtual kidnappings' happened across Latin America. Operated almost like a tele-marketing scheme where the 'kidnappers' dial a list of phone numbers until they find a suitable victim who is led to believe that their loved one has been abducted and ordered to pay a specified ransom. These were hoax kidnaps, but may people fell victim believing it to have been true.[320] This progressed into Facebook where kidnappers would check for wealthy looking individuals with profile settings to minimum, and knowing something of their life, their photo, their friends and parties they go to, would attend the social event in question and seek to lure the person away and conduct an 'express kidnapping'. Cases were reported in wealthy disco areas of Mexico[321] and Venezuela,[322] and led many to remove their surnames from the site and restrict information to known friends.

Facebook's latest fubar in content targeting is with messages on your homepage relating to one person in your contact list "*You haven't talked on Facebook lately.*" By lately it means within the last 72 hours.[323] Oblivious to the fact they may be a 'friend' you speak to infrequently or someone you

[316] Miller, C. C. *Zappos Gets Personal, but Not Too Personal*, 29 October 2009. *Available at:* http://bits.blogs.nytimes.com/2009/10/29/zappos-gets-personal-but-not-too-personal
[317] BBC News, *Protests force Facebook to change*, 30 November 2007. *Available at:* http://news.bbc.co.uk/1/hi/technology/7120916.stm
[318] AppScout, *MoveOn: Facebook Is Ruining Christmas*, 21 November 2007. *Available at:* http://www.appscout.com/2007/11/moveon_facebook_is_ruining_christmas.php
[319] MoveOn, *Facebook must respect privacy*, 30 November 2007. *Available at:* http://civ.moveon.org/facebookprivacy/071120email.html
[320] Lacey, M. *Exploiting Real Fears With 'Virtual Kidnappings'*, 29 April 2008, *Available at:* http://www.nytimes.com/2008/04/29/world/americas/29mexico.html
[321] El Semanario, *MySpace, Hi5 and Facebook used by kidnappers in Mexico*, 25 August 2008. *Available in Spanish at:* http://www.elsemanario.com.mx/news/news_display.php?story_id=9679
[322] Stephen Meijas, *Facebook and Express Kidnapping Alert, Venezuela.*, 24 June 2008. *Available in Spanish at:* http://orhpositivo.wordpress.com/2008/06/24/facebook-y-secuestro-express-alerta-venezuela
[323] Moxie, H. *And the Epic Facebook Wars Continue*, 13 November 2009, *Available at:* http://thaniknowmyself.blogspot.com/2009/11/and-epic-facebook-wars-continue.html

choose to communicate by phone or any other methods. In the case of one poor gentleman, the person in question was actually deceased.[324] This just shows one of the problems with targeting not knowing the full picture of a person's circumstance. Is the only option to just leave the community?

The hard line

With such clear predicaments facing modern society it is understandable that governing authorities feel inclined to get involved. In a speech in Brussels in November 2009, Viviane Reding, Member of the European Commission responsible for Information Society and Media highlighted the issues further at the 'European Digital Agenda for the New Digital Consumer.'

> *"The Commission is closely monitoring the use of behavioural advertising to ensure respect for our privacy rights. Now, European privacy rules are crystal clear: a person's information can only be used with their prior consent. Transparency and choice are key words in this debate."[325]*

She went further to give a personal guarantee, *"I will not shy away from taking action where an EU country falls short of this duty. A first example is the infringement action the Commission has taken with regard to the United Kingdom in the Phorm case."[326]*

Phorm is 'a global personalisation technology company that makes content and advertising more relevant to consumers',[327] according to their website. It has a system called *Webwise* that is a behavioural data service. Phorm came under scrutiny after trials with BT in 2006/2007 were not clearly advised to the public what was going on. Once people found out, they felt that they had not been given a 'choice' and BT had not been 'transparent' and it has caused huge backlash from consumers and privacy groups[328] calling it 'illegal',[329] even a petition to the Prime Minister.[330] Questions surrounding how data was collected raised flags as to whether an offence had been committed under section 1 of the Regulation of Investigatory Powers Act (RIPA).

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[324] *HEY FaceBook, This is So NOT Cool - Telling me I haven't Talked On Facebook Lately With Someone Who Is Dead*, 2 November 2009. *Available at:* http://thinkdodone.typepad.com/iscool/2009/11/hey-facebook-this-is-so-not-cool-telling-me-i-havent-talked-on-facebook-lately-with-someone-who-is-d.html
[325] *Supra note* 179
[326] *Id*
[327] *Information gleamed from:* http://www.phorm.com/
[328] BBC News, *Open Rights Group questions Phorm*, 12 March 2008, *Available at:* http://news.bbc.co.uk/1/hi/technology/7291637.stm
[329] BBC News, *'Illegal' ad system scrutinised*, 4 April 2008, *Available at:* http://news.bbc.co.uk/1/hi/technology/7331493.stm
[330] Number 10, *Stop ISP's from breaching customers privacy via advertising technologies*, 19 May 2008, *Available at:* http://petitions.number10.gov.uk/ispphorm

Phorm's response was that users could switch the system off – they have since moved to an opt-in model after an insistence from the Information Commissioner's Office (ICO).[331] Phorm maintains that no personal data is tied to an individual's unique Internet Protocol (IP) address at an Internet Service Provider (ISP) level, akin to the ISP logging used to record information for security purposes, and uses advanced algorithms to measure and deliver targeted messaging.[332]

Police were called into investigate and then dropped the case,[333] the UK government still has failed to satisfy Brussels as to the legality of the trials, and has share prices continue to drop as Broadband providers seek to distance themselves from the controversy,[334] resulting in the UK Managing Director Nick Barnett stepping down as the company favours less volatile environments, like Korea.[335] The issue remains an incredibly complex and grey area and one of the most pertinent cases surrounding behavioural technology facing a modern government.

I found myself caught up in the brawl after taking a neutral approach on my blog,[336] and found a barrage of criticism and abuse on forums online, which I subsequently highlighted. It was interesting to have both critique from Joe Public and praise from Phorm – neither of which I had anticipated as I was purely probing the issue of focussing on an important, but singular aspect of tracking technology, many of which goes unnoticed and somehow has become an accepted norm.[337]

Despite the outcome towards Phorm – I personally struggle to see the differences here between what Phorm are doing compared to similar techniques employed by Sky?[338] Surely what is good for the goose is also good for the gander? Perhaps it is to do with the heightened visibility of what Phorm are doing by the security geeks who frequent online – which directly relates to their personal experience – and equally find it easier to voice opinions in blogs, and have not yet made the connection in other media channels which they feel are not so directly connected to their online experience. Yet equally these items are happening or have happened without 'choice' via technology. There seems to be a discrepancy in our thinking and emotive reactions.

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[331] Williams, C. *Information Commissioner: Phorm must be opt-in only*, 9 April 2008, *Available at:* http://www.theregister.co.uk/2008/04/09/ico_phorm_tougher/
[332] *Information available at:* http://www.phorm.com/technology/industry-leading_privacy.html
[333] Williams, C. *Police drop BT-Phorm probe*, 22 September 2008, *Available at:* http://www.theregister.co.uk/2008/09/22/bt_phorm_police_drop
[334] Oates, J. *Orange ditches Phorm*, 30 October 2008, *Available at:* http://www.theregister.co.uk/2008/10/30/orange_wont_use_phorm
[335] Andrews, R. *Phorm UK chief steps dow*, 18 November 2009, *Available at:* http://www.guardian.co.uk/media/pda/2009/nov/18/digital-media-phorm-uk-chief-leaves
[336] *Article available at:* http://deandonaldson.wordpress.com/2008/07/30/a-phorm-in-your-side-or-a-phorm-in-a-tea-cup/
[337] *Follow up article available at:* http://deandonaldson.wordpress.com/2008/08/02/i-the-phorm-mentioned-hereby-state/
[338] *Supra note* 309

One maybe able to use YouTube without logging in, but cannot post, however they can still view content. Similarly one can view TV with *Freeview* without registering, however, with SkyTV, the majority of TV shows do not even work.[339] When people are penalised for not allowing service companies direct access to their bank account details via Direct Debit,[340] or forced to pay more for daily commutes preferring cash over the traceable RFID-enabled OysterCard in London,[341] or listening to the ever repetitive 'this call may be monitored for quality assurance purposes'[342] upon phoning any number of corporate institutions, from a consumer level where is the choice to opt-out, or rather opt-in which is argued is the premise of privacy law? The choice it seems is to merely avoid the experience, or certainly be penalised for choosing an alternative. It highlights a growing rift in what arguably is opt-in and opt-out as it becomes increasingly difficult to exist and operate in a modern world without being forced to be on a 'registered grid' that is being closely monitored for commercial or security reasons.[343] Where is the 'transparency' and 'choice' that Reding feels so passionately about[344] – surely the only choice cannot be to opt-out of technology?

A matter of security

This is further complicated when we consider governments predisposition to track the public, especially in the light of 9/11 attacks in the US[345] in 2001 and 7/7 bombings in the UK in 2005,[346] for fear of yet another terrorist attack on national soil.[347] It is understandable for governments to obviously fear war and economic calamity. 'What is paradoxical however is that at precisely the time when the government and citizens of the United States, the most powerful nation on earth, should feel most secure, Americans instead feel deep insecurity and vulnerability.'[348] The reality is that life has significantly changed since 2001, technology aside. According to *Privacy International's 2007*

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[339] *Supra note* 307

[340] Wallop, H. *£225 energy bill penalty for not using web*, 3 September 2009, *Available at:* http://www.telegraph.co.uk/finance/personalfinance/consumertips/household-bills/6126791/225-energy-bill-penalty-for-not-using-web.html

[341] Smit, M. *Tube and bus cash fairs soar*, 12 September 2006, *Available at:* http://www.thisislocallondon.co.uk/news/916347.m5ec/?from=ec&to=916347&l=tube_and_bus_cash_fairs_soar

[342] Belson, K. *Your Call (and Rants on Hold) Will Be Monitored*, 11 January 2005, *Availbale at:* http://www.nytimes.com/2005/01/11/business/11snoop.html (accessed November 18, 2009).

[343] Elias, R. *Spy chiefs target travel cards*, 4 May 2008, *Available at:* http://scotlandonsunday.scotsman.com/secretservices/Spy-chiefs-target--travel.4049184.jp

[344] *Supra note* 325

[345] New York Times, *U.S. Attacked: A Day of Grim Terror in New York and Washington*, 11 September 2001, *Available at:* http://www.nytimes.com/indexes/2001/09/11

[346] BBC News, *London rocked by terror attacks*, 7 July 2005. *Available at:* http://news.bbc.co.uk/1/hi/4659093.stm

[347] Kotecha, S. *FBI probe biggest plot since 9/11*, 18 November 2009. *Available at:* http://news.bbc.co.uk/newsbeat/hi/front_page/newsid_10000000/newsid_10003000/10003036.stm

[348] Crawford, N.C. *Fear Itself: US Foreign and Military Policy Since 9/11*, International Studies Association, 17 March 2004. *Available at:* http://www.allacademic.com/meta/p_mla_apa_research_citation/0/7/4/5/9/p74593_index.html

International Privacy Ranking, both the US and UK are at 'endemic' levels of surveillance, aligning them with Russia and China.[349]

Though the US made inquiries for ISPs to record all customer communications,[350] to intercept possible terrorism, the EU beat the US to the data retention draw, enforcing ISPs and mobile phone operators to 'keep all details of their customer's communications for between six months and two years', stopping short at recording conversations, rather destination data.[351] The *EU Data Retention Directive*[352] enforced all UK ISPs to store customer traffic data for a year and the UK government has previously said communications interception is 'vital'.[353] It is now claimed it does not go far enough and needs to be widened to place all social-networking sites under surveillance.[354] Opposition is calling this 'extremely intrusive' to store data 'just in case' and has attracted criticism from web founder Tim Berners-Lee who says the Internet should not be used to be 'snooped upon'.[355]

The Home Office in the UK, however, has already admitted the previous proposals 'would be of restricted use against organised criminals or terrorist organisations, as they were likely to disguise their communications,'[356] citing the ease of using non-registered phones, or 3G wireless dongles to access the Internet. Does this develop a case to have everyone registered and everything monitored in order lest anything or anyone would fall between the cracks and pose a security risk to the safety of national citizens? To propose such a thing is too extreme and would likely create backlash. The US is particularly aware of this and instead has changed the focus to 'stop perpetrators of child abuse', knowing this is an issue to which more people would become accepting. The Justice Department told the US Internet Industry Association 'You're going to have to start thinking about data retention if you don't want people to think you're soft on child porn.'[357]

The *'Internet Stopping Adults Facilitating the Exploitation of Today's Youth Act,'* to promote the safe use of the Internet by students, and 'for other purposes'[358] attracted press in February 2009[359] with

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[349] Privacy International, *The 2007 International Privacy Ranking*, 18 December 2007, *Available at:* http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-559597&als[theme]=Data%20Protection%20and%20Privacy%20Laws

[350] McCullagh, D. *Your ISP as Net watchdog*, 16 June 2005. *Available at:* http://news.cnet.com/Your-ISP-as-Net-watchdog/2100-1028_3-5748649.html

[351] Hunter, P. "ISP data retention becomes a reality," *Computer Fraud & Security* (Elsevier Ltd) 2006, no. 4 (May 2006): pp17-18.

[352] *Directive available at:* http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006L0024:EN:HTML

[353] Home Office, *Home Secretary: 'Communications data is vital'*, 15 October 2008, *Available at:* http://security.homeoffice.gov.uk/ripa/about-ripa/news/comms-data-vital-speech-15Oct08

[354] Espiner, T. *U.K. to monitor, store all social-network traffic?*, 18 March 2009, *Available at:* http://news.cnet.com/8301-1009_3-10199107-83.html

[355] *Id*

[356] Heath, N. *Gov't: Comms database may not deter serious crime*, 14 August 2008, *Available at:* http://news.zdnet.co.uk/security/0,1000000189,39461433,00.htm

[357] *Supra note* 350

[358] OpenCongress, *H.R.780 - Student Internet Safety Act of 2009*, 16 June 2009, *Available at:* http://www.opencongress.org/bill/111-h780/show

its plans to keep track of all ISP and Wi-Fi logs for two years. It's other working title; the *Internet Safety Act* was passed by the house in June 2009 and is currently before the Senate.[360]

The implication of this Bill is naturally being questioned. Conspiracy Theorists allege the government happened to have something to do with 9/11,[361] and state language is now being 'manipulated' or 'spun' to usher in an Orwellian society – 'a future state in which every aspect of life is controlled by Big Brother.'[362] The concept is taken from author George Orwell's book 1984, a dystopian novel about a totalitarian regime of nightmarish pervasive government surveillance in which the author believes *"in times of universal deceit, telling the truth is a revolutionary act."*[363]

Whether any truth in that allegation, what does seem to be true is that whatever reasons for ushering in such a Bill, the 'other purpose' clause will surely be used by law enforcement for purposes wholly unrelated to child abuse or pornography.[364] It also brings questions on access from perpetrators situated in other nations with global Internet access. The real fear is that once such a Bill is passed it is only a step away from extending the data retention to even more sensitive information, including the content of communications, such as being proposed in the UK,[365] which actually make citizens feel less safe. As Leslie Harris, President and CEO of the Center for Democracy & Technology states, 'we must not let an emotional issue potentially jeopardize the liberties of the citizenry and the privacy of their electronic communications,'[366] especially in an age[367] of ID theft,[368] hackers,[369] mislaid[370] and sold[371] consumer data which does nothing to assure personal security.

[359] June, L. *Proposed bill would force ISP, WiFi logs for security, criminal investigations*, 20 February 2009, http://www.engadget.com/2009/02/20/proposed-bill-would-force-isp-wifi-logs-for-security-criminal

[360] GovTrack, *H.R. 780: Student Internet Safety Act of 2009* , 13 November 2009. Available at: http://www.govtrack.us/congress/bill.xpd?bill=h111-780

[361] 911Truth, *Orwellian Society*, 30 April 2004, http://911truth.tripod.com/orwell.html (accessed November 18, 2009).

[362] *Definition of* "Orwellian." *The Oxford English Reference Dictionary* (2nd ed.). 1996. pp.1027.

[363] Moncur, M. *Quotation #35028 from Michael Moncur's (Cynical) Quotations*, 1 December 2002, *Available at:* http://www.quotationspage.com/quote/35028.html

[364] Harris, L. *Internet Safety Act Would Make Us Less Safe*, 12 March 2009, *Available at:* http://abcnews.go.com/Technology/AheadoftheCurve/story?id=7060343

[365] *Supra note* 354

[366] *Supra note* 364

[367] Cooney, M. *The six greatest threats to US cybersecurity*, 17 November 2009, *Available at:* http://www.networkworld.com/news/2009/111709-layer8-cybersecurity-threats.html

[368] *Information available at:* http://www.ftc.gov/bcp/edu/microsites/idtheft/

[369] Barkoviak, M. *FBI: Hackers Targeting PR Companies, Law Firms*, 18 November 2009, *Available at:* http://www.dailytech.com/FBI+Hackers+Targeting+PR+Companies+Law+Firms/article16871.htm

[370] Rayner, G. & Porter, A. *Data on 25m benefits claimants lost in post*, 20 November 2007, *Available at:* http://www.telegraph.co.uk/news/newstopics/politics/1569897/Data-on-25m-benefits-claimants-lost-in-post.html

[371] Fernandez, J. *T-Mobile scandal leaves data protection in tatters*, 19 November 2009, http://www.marketingweek.co.uk/t-mobile-scandal-leaves-data-protection-in-tatters/3006986.article

As technology links all sorts of travel and communication; as the UK police makes 3,000 requests for OysterCard data collated through RFID in under one year,[372] or the Serious Fraud Office tapping phones, reading emails and SMS texts on suspect businesses,[373] evidence shows an overwhelming desire by governing authorities to usher in such pervasive tracking systems,[374] whether RFID readers in wheelie bins,[375] biometric ID cards or otherwise.[376]

For the public to question the true motives or demand answers on transparency or even the safety of personal data is not conspiracy theory, rather it is mere wisdom to protect freedom of choice, expression and democracy lest we find ourselves living a totalitarian and dictatorial regime with restrictions on communications and Internet freedom seen historically in China and Egypt.[377] Yet as both sides of the Atlantic push for increased powers of surveillance, both governments seem eager to ensure to the doubters there will be no compromise.

US President Barack Obama continues to push for expanded political freedoms stating, 'I have always been a strong supporter of open Internet use. I am a big supporter of non-censorship.'[378]European Commissioner Viviane Reding makes it even more succinct,

> *"Europe has clear principles concerning privacy and the protection of personal data. They are fundamental rights!"*[379]

Yet despite these statements, the Obama administration is seeking to reverse a federal appeals court decision that limits the government's search-and-seizure powers with regards to digital technology. Instead of just having a warrant to look at specific files, they are asking for complete transparency in all computer-related investigations.[380]

Where is power – institutions or consumers?

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[372] Lydall, R. *Police make 3,000 requests for data from Oyster cards*, 21 February 2008, *Available at:* http://www.thisislondon.co.uk/standard/article-23440524-police-make-3000-requests-for-data-from-oyster-cards.do

[373] McMeeken, R. *I'll be watching you: Serious Fraud Office*, 20 November 2009, *Available at:* http://www.building.co.uk/story.asp?sectioncode=659&storycode=3153428

[374] Casciani, D. *UK surveillance plan to go ahead*, 9 November 2009, *Available at:* http://news.bbc.co.uk/1/hi/uk_politics/8350660.stm

[375] *Supra note* 121

[376] Times Online, *ID cards to go on sale for the first time in Manchester*, 17 November 2009, *Available at:* http://www.timesonline.co.uk/tol/news/politics/article6919333.ece

[377] Boas, T. & Kalathil, S., *Open Networks, Closed Regimes*, 31 July 2003, *Available at:* http://www.carnegieendowment.org/events/index.cfm?fa=eventDetail&id=573&&prog=zch&proj=zdrl

[378] Agencie France-Presse, *Government pressure affecting Internet social networks—forum* , 19 November 2009. *Available at:* http://newsinfo.inquirer.net/breakingnews/infotech/view/20091119-237148/Government-pressure-affecting-Internet-social-networksforum

[379] *Supra note* 179

[380] Kravets, D. *Obama Wants Computer Privacy Ruling Overturned*, 25 November 2009. *Available at:* http://www.wired.com/threatlevel/2009/11/obama-wants-computer-privacy-ruling-overturned

We find discrepancy in legislation from all corners of governmental legislation. It seems highly immoral to track people online for advertising – yet in matters of security we cannot go far enough. The issue escalates as both sides of the fence coincide over matters of *'deep-packet inspection,'* and the nature of intimate content held by ISPs and telecommunication companies as opposed to merely recording destination addresses. It's a move by ISPs away from being 'dumb Internet pipes'.[381]

At a conference in Capitol Hill in 2008, Gigi B. Sohn, the president and co-founder of Public Knowledge, an advocacy group based in Washington, D.C. stated,

> *"Deep-packet inspection is the Internet equivalent of the postal service reading your mail. They might be reading your mail for any number of reasons, but the fact remains that your mail is being read by people whose job it is to deliver it."[382]*

It's a universally accepted part of Internet protocol that web servers keep a log of each visitor, but these are dynamically assigned each time we go online or restart the computer. Web server logs detail the date, time, your IP address and the pages that you visit on that site but this information alone cannot be used to personally identify you, unless you provide that information by filling out a form on a website.[383]

Most ISPs have something within their privacy policies that states IP address data will not be disclosed or used for *'marketing, advertising, or similar purposes'.* Yet what the data is being used for is in understanding consumer habits online in order to become more competitive as content itself becomes a commodity – especially with the rise of bandwidth intensive video content.[384] It is this deep level data that is most interesting to the advertisers or law enforcement agencies.

The argument has been raised for an open transparency to consumers, written in simple language, so that they have the ability to opt-in to a 'deep-packet inspection program' (DPP) and an equal ability to opt-out at any given stage.[385] Thus the data can be used to serve more relevant content, or advertising, to the consumer if they so wish. A simple illustration would be Facebook's 'like/don't like' buttons underneath ads displayed on their site in order to refine the type of advertising shown, except this is happening at an ISP level and therefore more like Sky TV.[386] This is really the argument

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[381] Weinstein, W. *A Clear Case for ISP Regulation: IP Address Logging*, 2 June 2009. *Available at:*
http://www.circleid.com/posts/20090602_isp_regulation_ip_address_logging
[382] Kawamoto, D. *ISPs: Self-regulation best for ad privacy*, 25 September 2008. *Available at:*
http://news.cnet.com/8301-1023_3-10051244-93.html
[383] *For a demonstration and more information please see:* http://www.tracemyip.org/
[384] *Supra note* 381
[385] *Supra note* 382
[386] *Supra note* 306

Phorm,[387] and a number of other companies like them have proposed.[388] The fear is consumers will struggle to accept or understand the issues and therefore the need for clarity and transparency.

However, this does not prevent ISP's reading the data themselves or law enforcement agencies demanding the data for whatever reasons they deem appropriate, who can request the release of online history complete with personal information and the IP addressed assigned to a person on a particular day. In some countries, the government may require that ISPs provide them with open access to online activity logs. Whether ISP's direct of law enforcement agencies, in both cases 'contents inside your envelope are being read, and then being kept or used for an ISP's own purposes or to pass it on to third parties to use.'[389] It is clearly becoming the equivalent of the mailroom in a prison, where post is checked and actioned prior to delivery.[390]

The EU Consumer Commissioner Meglena Kuneva in discussion of a new industry body stated,

> *"We consulted internet publishers and advertisers, ad-networks and data solution providers, browser manufacturers, regulators and self-regulatory organisations – both in the EU and in the US. Most stakeholders would also agree on the need for readable privacy notices and terms and conditions which are free from unfair terms."[391]*

Governments obviously have a place in ensuring corporations abide by laws regarding the consumer's freedom to choose to have more relevant content or advertising delivered to them. Economic wellbeing is equally vital to the success of a nation as is national security.[392] One cannot override another and allow a growing disparity in handling issues surrounding modern media and technology usage and ultimately create additional regulation on businesses that compromise competitive positions in a global market.[393]

It also highlights disparity in the reasons for why the data is being collected and then being subsequently used which is the issue that concerns privacy advocate groups the most and commercial entities come under most fire for,[394] and is a key point of concern in the United States Internet Safety Act's provision of 'other purposes'.[395] It is this disparity that has seen the Electronic Frontier Foundation (EFF) to sue the CIA, the US Department of Defence, Department of Justice, and

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[387] *Supra note* 332
[388] *Supra note* 382
[389] *Supra note382*
[390] *For further information see:* http://www.prisonmail.org/main/terms.php
[391] *Supra note* 291
[392] Mikkelsen, R.*World economic crisis is top security threat: U.S.*, 12 February 2009. *Available at:* http://www.reuters.com/article/topNews/idUSTRE51B64820090212
[393] Irwin, M. R., *Competitive Freedom versus National Security Regulation* (New York: Greenwood Press, 1989).
[394] *Supra note* 287
[395] *Supra note* 358

three other US government agencies 'for allegedly refusing to release information about how they are using social networks in surveillance and investigations.'[396]

Similarly in the UK, some of the largest names on the web including Google, Yahoo, Facebook and eBay are actively objecting to a clause in the new *Digital Economy Bill* proposed by Lord Mandelson. It is seen as a sweeping piece of proposed British legislation that could give government 'unprecedented and sweeping powers' to amend copyright laws, to 'introduce additional technical measures or increase monitoring of user data even where no illegal practice has taken place.'[397]

There is a danger in treating the majority of citizens as potential criminals – when clearly it is a mere handful that poses the most risk – and then steam-rolling tracking initiatives without open scrutiny and clarity. From the FBI's demands for personal records have gone up hundred-fold over historic norms, playing on a loophole in consumer privacy,[398] to the police befriending people on Facebook just to prosecute underage drinking.[399] It all undermines public confidence if systems are being abused through 'routine use' to punish misdemeanours, such as dog fouling.[400] Ultimately this kind of behaviour creates as much distain in people's mind surrounding advanced technology techniques in the same way that Phorm seems to have done[401] and the EU government is so keen to address.[402]

Public acceptance

Although the public has become accepting of 'personal recommendations' on websites and with the rise of social media requiring logged-in access for personalised content, so too has the knowledge of uses of the Internet. Knowledge about cookies is increasing amongst Internet users, though they seem to both improve and detract from their experience.[403] A recent report now suggests the rate of cookie deletion amongst web users seems to have gone up to 30% per month.[404]

This helps show a rising trend in *'consumer in control'* and the confidence they have in being able to opt-in and out as they desire. This follows the argument for Industry self-regulation, which is keen to promote an educational process to show the benefits and the ease of moving in and out of such

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[396] Mills, E. *EFF sues feds for info on social-network surveillance*, 1 December 2009. *Available at:* http://news.cnet.com/8301-27080_3-10407224-245.html

[397] Fildes, J. *Web giants unite against Digital Britain copyright plan* , 2 December 2009. *Available at:* http://news.bbc.co.uk/2/hi/technology/8390623.stm

[398] Gellman, B."The FBI's Secret Scrutiny," *The Washington Post*, 6 November 2005. *Available at:* http://www.washingtonpost.com/wp-dyn/content/article/2005/11/05/AR2005110501366_pf.html

[399] Lang, KJ. *Facebook friend turns into Big Brother*, 19 November 2009. *Available at:* http://www.lacrossetribune.com/news/local/article_0ff40f7a-d4d1-11de-afb3-001cc4c002e0.html

[400] BBC News, *Councils warned over spying laws*, 23 June 2008, http://news.bbc.co.uk/1/hi/uk/7468430.stm

[401] *Supra note* 329

[402] *Supra note* 179

[403] eMarketer, *Cookies Confuse Some Consumers*, 27 July 2007. *Available at:* http://www.emarketer.com/Article.aspx?R=1005189

[404] ComScore, *U.S. Client Newsletter - May 2009 Edition*, 1 May 2009, *Available at:* http://www.comscore.com/Newsletter/2009/May/US_Client_Newsletter/(language)/eng-US

targeting programs, from both a content and advertising standpoint. Education around content is easier for the public to palate, where as advertising automatically creates a reaction as people do not want to feel they are being exploited for commercial gains. In this regard the ability to accept advertising as part of life is primary – against having to pay for content – and the secondary issue is the fact that advertising can equally be more relevant. E.g. as a single man, I never have to watch ads for feminine hygiene products on my TV ever again, and instead can have the choice to see ads about new cars or gadgets instead, such as demonstrated with Invidi's addressable IPTV systems.[405]

The media reports on Identity Theft have seen the rising sales of home shredders over recent years[406] and yet concepts over privacy are being challenged across a plethora of social networks designed to tell you what you are doing or where you are and *digital natives* become accepting of this without fearing any implications, affording the instances such as those in Latin America.[407]

The issue of over-familiarity seen in targeting as in the case of Facebook's *'You haven't spoken recently'* or reactions to such pervasive technology turned against the majority of law-abiding citizens[408] may in fact be cultural issues. Certainly in the UK, over-bearing and zealous sales assistants in shops are seen as a little 'in your face' and could lead to similar reactions in an increasingly online world. The same is equally true concerning what is 'private' as we move forward.

Privacy and technology

The very concept of privacy varies amongst culture. Even in the Western world there are conflicting views. There is no explicit right to privacy in the United States Constitution, referring the issue instead to state constitutions. Also since the attacks in September 11, 2001 the *USA Patriot Act* has seen a further weakening in privacy protections.[409] This contrasts the European approach where the *Data Protection Directive[410]* defines the basics of data protection and insists that Member States transpose this into respective national laws.

Japan, until recently, followed a similar line to the US adopting a self-regulatory system, especially regarding electronic commerce. However, the speed of technology adoption amongst medical,

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[405] *More information available at:* http://www.invidi.com/
[406] Ambrose, E. *ID thefts put shredder sales on a tear*, 18 April 2004. *Available at:* http://www.chicagotribune.com/business/yourmoney/sns-yourmoney-0418shred,0,1001919.story
[407] *Supra notes* 321, 322
[408] *Supra note* 400
[409] Laurant, C. *Privacy & Human Rights 2006: United States of Amercia*, EPIC, 18 December 2007. *Available at:* http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-559478
[410] *Supra note* 352

financial and technological fields caused new legislation to be passed in 2005.[411] What is also notable is that since 2004 there has been a widespread adoption and use of electronic tags and has led to *'Guidelines for Privacy Protection with Regard to RFID Tags,'*[412] which discusses how consumers might interfere with the reading of tags, such as covering them with aluminium foil, but 'appears to say nothing about *rights* to have the tag removed or destroyed.'[413]

Since then the Japanese Cabinet has also released a *Priority Policy Program 2008*[414] that seeks to address an infrastructure that connects "anything," including objects and states that 'we must develop technology that allows the advanced use/utilization of electronic tags, etc., and establish/review guidelines for privacy protection and security from a citizen's or user's point of view, thereby creating a suitable environment.' It highlights the escalation of this pervasive technology, known as *ubiquitous computing* or the *'Internet of things'*.[415]

> *"By FY2010, we will realize fast, safe, and secure authentication technology for ubiquitous terminals, etc., and privacy protection technology that will allow the provision of only the appropriate information according to the user. We will also construct network technology that enables the simultaneous use of around 10 billion ubiquitous terminals (including RFID tags), and promote its use/utilization in various areas for diverse business fields and nations."*[416]

South Korea adopted a policy of investment into Information Communication Technology following an economic crisis in the mid 1990's. By November 2002, there were 10 million subscribers to high-speed broadband and still maintains the largest population of broadband Internet users in the world[417] and 4G WiMax – broadband Internet for mobile is commonplace. With such advancements in ubiquitous computing technology, it too has forced South Korea to investigate the notion of privacy, which is relatively new and challenging for them. They are trying to adopt similar standards as Japan and the US, in as much there is a distinction between public and private sectors.[418] However it has come under much criticism as governing authorities have little will to uphold privacy versus administrative efficiency. Korea was also one of the first countries to adopt a law limiting free speech

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[411] Laurant, C. *Privacy and Human Rights 2006: Japan*, 18 December 2007. *Available at:* http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-559524#[56]]

[412] Soumu-Sho and Keizai-Sahgo Sho aka METI, *Japanese RFID Privacy Guideline Released*, 8 June 2004. *Available at:* http://www.rfidbuzz.com/news/2004/japanese_rfid_privacy_guideline_released.html

[413] *Supra note* 411

[414] *Available at:* http://www.kantei.go.jp/foreign/policy/it/Program2008.pdf

[415] Weiser, M. *Ubiquitous Computing*, 3 March 1996. *Available at:* http://sandbox.xerox.com/ubicomp

[416] *Supra note* 414

[417] Privacy International, *Silenced - South Korea*, 21 September 2003, *Available at:* http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-103782

[418] Laurant, C. *Privacy and Human Rights 2006: South Korea*, 18 Decmeber 2007. *Available at:* http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-103782

on the Internet under the "regulation of dangerous communications," but a court over-ruled this as an unconstitutional violation of freedom of speech in 2002.[419]

In 2003, the Korean Ministry of Information and Communication (MIC) proposed rules to compel the use of a 'National ID number of Korean people before they would be permitted to post on the bulletin boards of all public organizations.' MIC has since introduced the *Internet Personal Identification Number* or 'i-PIN'. Despite the issues in trying to tackle issues of defamation, especially in relation to North Korea, this was actually a step to reduce the amount of personal information leading Portals in South Korea require to use their services. Most Portals actually require the handing over a citizens national *Resident Registration Number,* which is personal identifiable to age and address level, without any clarity on how that information will be used. The *i-PIN* in contrast does not reveal any such personal information to commercial organizations, but it has been slow to be adopted by Portals, citing 'expense' to change their systems.[420] In a fast-paced technology society, it remains at the forefront of implications on working through privacy issues.

India similarly is going through a challenge surrounding privacy and technology, especially in the light of the Mumbai attacks in 2008.[421] There is no explicit right to privacy in India data protection law.[422] With 1.2Bn citizens, India represents the second largest population on the planet (17% of global population);[423] the concern surrounds them not having any kind of national identity number.[424] Carrying biometric information to assist in fraudulent duplication, the system will create the biggest biometric database in the world and hopes to be implemented by 2012.

As such it has attracted the leading global technology companies to the foray including IBM, HP, Lockheed Martin and Microsoft who are all bidding for multi-billion pound contract – the biggest technology contract ever seen – that will see every person uniquely tagged.[425] The project was initially heralded as not an identity card per se, but rather to assist in voting and commerce.[426] However leaked documentation has now confirmed this will be the underpinning of the Ministry of Home's own *National Citizenship Identification Project*.[427]

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[419] *Supra note* 417
[420] *Supra note* 418
[421] BBC News, *Mumbai rocked by deadly attacks*, 27 November 2008, http://news.bbc.co.uk/1/hi/7751160.stm
[422] Laurent, C. *Privacy and Human Rights 2006 - Republic of India*, 18 December 2007. *Available at:* http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-559529
[423] *Information gleaned from:* http://en.wikipedia.org/wiki/World_population#Distribution
[424] Biswas, S. *India in biggest biometric count*, 7 September 2009. *Available at:* http://news.bbc.co.uk/1/hi/world/south_asia/8241545.stm
[425] Morgan, R. *India's ID cards challenge*, 7 July 2009. *Available at:* http://www.computerweekly.com/Articles/2009/07/27/237048/India39s-ID-cards-challenge.htm
[426] *Supra note* 424
[427] Singh, R. *Leaked documents says UID to locate illegal migrants* , 21 November 2009. *Available at:* http://www.merinews.com/article/leaked-documents-says-uid-to-locate-illegal-migrants/15789030.shtml

The Biometric identification details of the *Multipurpose National Identity Card* will be tamperproof[428] and expected to be used alongside transport systems[429] and include RFID[430] as the government wants to link all databases together like an 'electronic glue', including financial, agricultural and educational with travel.[431] It is the largest citizen identity project attempted in history and is causing huge backlash for fears over privacy via hacking.[432] In a country that lacks even the basic legislation to protect the personal data of its citizens, it is a climate for informed debate on the ethical and moral implications.[433]

A global ethical issue

India has capturing world attention as they are being seen as a potential test-bed for other nations to tackle terrorism and criminality, despite concerns over the threat for privacy and data protection. Identity Cards in some form or another are already adopted in many nations. In the US all immigrants at the border are enforced through biometric finger printing and facial recognition and now must have an electronic visa.[434] China has expressed its desire to hand out over a billion government-issued RFID identity cards to its citizens.[435] Yet in the UK, the new passports contain a RFID chip with a large A6 size aerial have already being hacked raising serious doubts over security.[436] But the proposal to link technology like biometrics and smart technology for uses in everyday life in India takes this to the next level and as such there are challenges about the need for such intrusive technology in a democracy from a moral and ethical standpoint.

Fearing the trigger of a negative socio-economic impact in India, Barbara Specht, Advocacy Officer in WIDE – a woman's activist group – has been calling for a halt in trade between EU and India until adequate discussions have taken place. The issue is a concern that the neo-liberal economic policies in trade between the two states 'will have a damaging effect on the livelihoods of India's poor women and men' especially with the marginal position occupied by the Indian woman in the

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[428] SCOSTA: Smart Card Operating System for Transport Application, *Guidance to Applicant For Smart card product / Microelectronics Module Certification*, 1 August 2006. *Available at:* http://www.scosta.gov.in/SCPC%2002%2003.htm

[429] Ramachanran, R. & Ramakrishan, V. *A digital Pandora's box*, 30 July 2005. *Available at:* http://www.flonnet.com/fl2216/stories/20050812003902500.htm

[430] Lal Pai, U. *Indian E-passport Project On A Roll*, 1 September 2009. *Available at:* http://www.automationworld.com/news-5930

[431] *Information gleaned from:* http://en.wikipedia.org/wiki/Multipurpose_National_Identity_Card

[432] Murthy, R. *Secrecy fears over India's epic ID project*, 20 November 2009. *Available at:* http://www.atimes.com/atimes/South_Asia/KK20Df07.html

[433] Karunakaran, B. *India 's UID And The Fantasy Of Dataveillance*, 24 August 2009. *Available at:* http://www.countercurrents.org/karun240809.htm

[434] U.S Department of State, *Safety & Security of U.S. Borders/Biometric*, 1 December 2007. *Available at:* http://travel.state.gov/visa/immigrants/info/info_1336.html

[435] Winer, P. "RFID in Colorado and China," 21 April 2004, http://radio.weblogs.com/0121943/2004/04/21.html

[436] Boggan, S. *Cracked it!*, 17 November 2006, *Available at:* http://www.guardian.co.uk/technology/2006/nov/17/news.homeaffairs

society.[437] Specht is highlighting some of the concerns in an agricultural society consisting of small-scale farmers that already being hampered by increased regulations, but who undoubtedly will suffer the most in ushering through a system such as the *National Citizenship Identification Project*.[438]

Hoping to transform the Indian nation, cabinet minister Nandan Nilekani called for a summit in New Delhi in September 2009 between the EU and India hoping to foster dialogue and focus on communalities such as the ethnic, socio-cultural and religious diversity shared by both states as well as the differences regarding policy issues of security, data protection and privacy.[439] The initial summit happened under the EU funded initiative RISE (Rising pan-European and International Awareness of Biometrics and Security Ethics) is an 'international initiative for promoting Awareness on Ethical Aspects of Biometrics and Security Technologies'[440] and seeks to align Brussels and Washington in an ongoing investigation with India to address the 'integrity and dignity, protection of weaker communities and their privacy rights.'[441] The Consortium includes eight countries and representatives from the fields of policy, technology, social sciences, ethics, and philosophy, and includes universities, research centres and industry. It has already scheduled a series of events to discuss various issues and there implications.[442]

Similarly, Africa is not exempt from the issues surrounding ethics and biometric ID cards. Somalia has lead the roll call in ePassport rollout[443] and the EU has already sponsored new biometric identity card schemes the Congo to help tame its unruly armed forces.[444] One of the next African countries to have biometric Identity Cards is Rwanda, which will first see the 5.3 million Rwandans above 16 years given a new national identity number before integrating a smart card 'encompassing all the data from any service provider such as banks, driving permit, insurance, and many more others.'[445] Similar to the profiling of Jews, Gypsies and homosexuals in Nazi Germany in 1938 with the help of IBM and

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[437] Specht, B. "EU-India Summit: Opportunity to hold the ongoing EU-India free trade agreement negotiations and rethink trade relations from a sustainable development and gender equality perspective," *WIDE*, 5 October 2009. *Available at:* http://62.149.193.10/wide/download/PressRelease_EUIndiaSummit.pdf?id=1040
[438] *Supra note* 427
[439] Balestrieri, V."EU-INDIA: The RISE Consortium hosts a High Level Meeting in New Delhi on Biometrics and Security Ethics," *CORDIS*, 23 July 2009. *Available at:* http://cordis.europa.eu/wire/index.cfm?fuseaction=article.Detail&rcn=19556
[440] *Information gleaned from agenda available at:* http://www.riseproject.eu/Documents/Agenda_as%20on%2014th%20September%202009_v13.1.pdf
[441] Find Biometrics, *"Launch of RISE: An Intenational dialgue platform devoted to ethics fo biometrics and security technology,"* 1 May 2009. *Available at:* http://www.findbiometrics.com/articles/i/6479
[442] *Information available at:* http://www.riseproject.eu/events.html
[443] Lockie, M. "Somalia leads in Africa with ePassport rollout," *Card Technology Today* (Elsevier Ltd) 19, no. 2 (February 2007): pp6-7.
[444] Bavier, J. "Congo hopes hi-tech ID cards will tame unruly army," *Reuters*, 27 September 2007. *Available at:* http://www.alertnet.org/thenews/newsdesk/L27799842.htm
[445] Ngarambe, A. *UK firm wins $18m Rwanda ID tender*, East African Business Week, 31 March 2008, *Available at:* http://africannewsanalysis.blogspot.com/2008/03/uk-firm-wins-18m-rwanda-id-tender.html

punch cards,[446] national ID cards were used in profiling *'Tutsi'* in the 1994 Rwandan genocide, which led to new cards being issued in 1996 without 'ethnicity' being stated.[447] Fears for future safety of citizens through any potential dissidents in such volatile nations are naturally a by-product concern in reinstating a new and more detailed ID card.

Uganda currently does not have any kind of national ID card, yet is trying to be ushered through as it is felt the war would not have carried on as long if such a system had been implemented.[448] The initiative is being praised in East Africa who is hoping to bring financial stability in the region's capital markets through the introduction of such schemes, as well as allow a freedom of travel through the states.[449] However, prior to a Ugandan ID card, biometric data of banking customers will be collected, and is outlined in a letter to the International Monetary Fund (IMF) seemingly before the citizens have a right to question such policy,[450] highlighting ethical considerations surrounding commercial endeavours through advancing technology in some of the poorest regions of the planet.

Beyond preventing fraud, the public description of the alleged benefits for 'smart' biometric ID systems surrounds the banking system; i.e. preventing fraud and allowing the poor to have access to the banking system. Nations including India stress the need for aid to get to the intended recipients and not lost through fraud, which could be a justifiable reason to promote or require biometric ID in the eyes of the IMF. It can also be argued this is merely a pretext for 'policy laundering.'[451] Whatever reasoning is being presented for this technology, the implications cannot go unnoticed. Once the system is in place, it's just a very small step from some future figure using this information against certain factors of society that are deemed dissident, and could lock down their movement or food purchase at the flick of a switch.

Playing catch up

The EU Consumer Commissioner Meglena Kuneva is concerned with the consumer's rights within a commercial environment as technology progresses.

> *"If cloud computing and location-based services become pervasive – as they seem destined to be – the sources and amount of data collected and stored in remote places will multiply. We*

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[446] Black, E. *IBM and the Holocaust*, 2nd edition (Washington, DC: Dialog Press, 2009). pp 58-59

[447] Fussell, J. *Group Classification on National ID Cards as a Factor in Genocide and Ethnic Cleansing*, 15 November 2001. *Available at:* http://www.preventgenocide.org/prevent/removing-facilitating-factors/IDcards

[448] Mwijagye, P. *Uganda's ID programme reaches second phase* , 19 January 2009. Available at: http://www.busiweek.com/index.php?option=com_content&task=view&id=914&Itemid=29

[449] Kapchanga, M. *East Africa: Travelling in the Region? ID Card is All You'll Need*, 12 October 2009. *Available at:* http://allafrica.com/stories/200910120119.html

[450] *Correspondence available at:* http://www.imf.org/external/np/loi/2008/uga/062008.pdf p9

[451] Allonby, N. *ID Cards - a World View*, 1 September 2009. *Available at:* http://justgetthere.us/blog/archives/ID-Cards-a-World-View.html

> *must therefore ensure that consumers are properly protected in this ever-changing environment."*[452]

However this is just a tiny, though overlapping, component of the issue at hand. In discussing the *Challenges of Convergence,*[453] a discussion paper from *i2010* – the EU policy framework for the information society and media,[454] discussions around connected homes with networks and intelligent appliances. The concept is around each home having a central hub – whether a PC, all-in-one broadband/IP-TV/VoIP/ storage device, a high powered TV/media player or even a mobile phone – and then linked to wireless electrical devices such as heaters or alarms, washing machines or surveillance cameras with an "option to read RFID (Radio Frequency Identification) tags, for instance on clothes for automatic check on what type of program to use in washing machines."[455]

An EU council was held in Lisbon in 2007 over the concern that Europe is 'lagging behind' the rest of the world in RFID adoption, which will result in holding back the *Information Society*. Also known as the "Internet of things" – 'in which the internet does not only link computers and communications terminals, but potentially any of our daily surrounding objects – be they clothes, consumer goods, etc.' Though sounding science fiction, this illustrates a commitment to push through the next wave of computing technology, for fear of being seen backwards. The proposal outlined the benefits of RFID from safety, convenience to accessibility and improves quality of services as well as assists in recycling. It also states that current passive chips are not adequate and technology needs to be improved to have larger memory capacity, active networking capabilities, integrated sensors and power management techniques.[456]

This highlights the growing concern surrounding the removal or de-activation of tags, often touted as pacifying of consumers – as this will impact on ability to prove purchases for refunds or in recycling, which will undoubtedly become a requirement for legislation. Similarly the 'active' extra-memory chips will be required for two-way communication and the ability to communicate at further distances then their passive predecessors. The sensors could take a number of forms, from medical, biological, environmental and location awareness.

Pushing the boundaries

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[452] *Supra note* 291
[453] *Available at:* http://ec.europa.eu/information_society/eeurope/i2010/docs/high_level_group/i2010_hlg_convergence_paper_final.pdf
[454] Information gleaned from: http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm
[455] *Supra note* 453
[456] Presidency of the Council fo the European Union, *On RFID – The Next Step to the Internet of Things*, 14 November 2007. *Available at:* http://www.statewatch.org/news/2007/nov/eu-rfid-of-things.pdf

The sensor issue is expounded further in a proposed National Children's Study (NCS) from 2004 in the United States, 'No one has considered monitoring body temperature on 100,000 subjects each minute for 20 years, a parameter that is technologically within reach today with minimal burden on the participant,' which could be used to monitor viral infections that spread across the nation.[457]

In November 2009, the Florida-based company VeriChip Corporation – which already boasts the world's first and only federally approved human-implantable radio microchip[458] – launched an implantable RFID with and sensor applications. In the wake of the global *Swine Flu* Epidemic, it is working with Minnesota Company Receptors LLC, to develop virus-detection technology that can automatically detect in a host's bloodstream the presence of H1N1 swine flu, the H5N1 bird flu virus, or other pandemic agents or viruses deemed a bio-threat to assist in emergency preparedness.[459] Given sufficient reasoning for adoption, the advancement of technology and the pervasiveness of RFID are only currently limited only by man's imagination,[460] or his fear of epidemic such as HIV.[461]

Elaborated in an article in the Guardian UK, Tony Bunyan highlights the fact that the 'EU adopts a five-year plan for justice and home affairs affecting many areas of EU citizens' civil liberties' which overrides any national initiative. He highlights the plans from an EU Council Presidency paper for what he terms a *Digital Tsunami*, which will 'lead to behaviour being predicted and assessed by "machines" (their term) which will issue orders to officers on the spot.'[462]

> "Every object the individual uses, every transaction they make and almost everywhere they go will create a detailed digital record. This will generate a wealth of information for public security organisations, and create huge opportunities for more effective and productive public security efforts."[463]

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[457] Kwok, R. "Final Report Use of 1) Sensors and 2) Radio Frequency ID (RFID) for the National Children's Study," 25 August 2004. *Available at:* http://www.nationalchildrensstudy.gov/research/methodspilot/Pages/Final-Report-Use-of-1-Sensors-and-2-Radio-Frequency-ID-RFID-for-the-National-Children-s-Study.pdf

[458] Stein, R. "Implantable Medical ID Approved By FDA," *Washington Post*, 14 October 2004. *Available at:* http://www.washingtonpost.com/wp-dyn/articles/A29954-2004Oct13.html

[459] Tomek, A. "VeriChip Corporation to Present its Glucose-Sensing RFID Microchip and Virus Triage Detection System for the H1N1 Virus at ID World International Congress," *VeriChip*, 29 October 2009, *Available at:* http://www.verichipcorp.com/pressreleases/102909.html

[460] IBM, *Identification and tracking of persons using RFID-tagged items in store environments* , 11 July 2006. http://patft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.htm&r=4&p=1&f=G&l=50&d=PTXT&S1=%22tracking+persons+using+RFID%22&OS=%22tracking+of+persons+using+RFID%22&RS=%22tracking+of+persons+using+RFID%22

[461] Associated Press, *HIV carriers face microchip implants in Indonesia's Papua province*, 24 November 2008. *Available at:* http://www.guardian.co.uk/world/2008/nov/24/indonesia-aids

[462] Bunyan, T. *The surveillance society is an EU-wide issue*, 28 May 2009. *Available at:* http://www.guardian.co.uk/commentisfree/libertycentral/2009/may/28/eu-view-surveillance-society

[463] *Id*

Bunyan also claims that by 2014 the EU will create a "Euro-Atlantic area of cooperation with the USA in the field of freedom, security and justice," which is likely to happen behind closed doors,[464]

In 2006 the head of Transformational Government, Sir David Varney predicted that the state would know 'a deep truth about the citizen based on their behaviour, experience, beliefs, needs or desires.'[465] What is concerning is that EU Ministers believe they are, 'balancing' the demands of security and civil liberties and embracing new technology simply because it is there 'so why should it not be used' by public security organisations? The assumption is everyone accepts the 'threats' and with most people having *nothing to hide[466]*, it is sufficient to usher in a 'gargantuan, and undiscussed, leap with no recognition that people not only want to live and travel in safety also want protection from an all-mighty state.'[467]

> *"The* 'Digital Tsunami' *and the surveillance state by will take the EU further down the road to authoritarianism, a path which looks less and less likely to be reversible."[468]*

Faced with the policies in discussion around the world, the fear of dissident nations breeding and harbouring potential terrorists or criminals, already, over 2.2 billion people, or 33% of the world's population, have been issued with 'smart' ID cards – over 900 million have biometric facial and fingerprint systems.[469] It is certainly not unrealistic to assume on present plans, that by the end of 2015 the need for tracking every single global citizen through 'smart' ID technology will have been 'presented' to the world at large.[470]

The new EU Law

In a surprising counter-reaction, and throwing a huge spanner in the works, the EU has passed a law requiring Internet users' consent before cookies can be placed on their machines. It is enforced opt-out driven through a neo-luddite fear of technology as opposed to consensual discussion. The development has huge implications for the digital advertising industry, which relies on cookies.[471] The directive states that national governments must,

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[464] *Id*

[465] Porter, H. "It is time to resist," *Guardian*, 25 February 2009. *Available at:* http://www.guardian.co.uk/commentisfree/henryporter/2009/feb/25/civil-liberties-surveillance

[466] *A term used as marketing spin on the public and hence the title of my blog* http://NothingToHide.Us

[467] Bunyan, T. "The "digital tsunami" and the EU surveillance state," *StateWatch*, 25 March 2009. *Availabe at:* http://www.statewatch.org/analyses/no-75-digital-tsunami.pdf

[468] *Id*

[469] *Supra note* 451

[470] Newling, D. *Britons 'could be microchipped like dogs in a decade'* 30 October 2006. *Available at:* http://www.dailymail.co.uk/news/article-413345/Britons-microchipped-like-dogs-decade.html

[471] Marshall, J. *EU Proposal Could Cripple Common Web Ad Practices*, 6 November 2009. *Available at:* http://www.clickz.com/3635590

> *"…ensure that the storing of information, or the gaining of access to information already stored, in the terminal equipment of a subscriber or user is only allowed on condition that the subscriber or user concerned has given his/her consent, having been provided with clear and comprehensive information."*[472]

It would seem that again governing policies seem to be totally out of touch and have not thought what this will actually do to the Internet. It was only as a result of Netscape invention of the *Cookie* back in 1994 that the web actually moved forward to where it is today. It was a foundational building block to be able to pass information from one page to the next,[473] and is a technology that government websites themselves benefit from.

This move from the EU government will not just tackle the privacy fears of behavioural advertising that Viviane Redding, EU commissioner for information, society and media, is keen to address,[474] but is pulling the thread that will unravel the serving of web content or advertising in any digitally-enabled environment. For a start the ability to measure ad frequency – and so the notion of 'capping', i.e. not over bombarding users with too many ads would be affected and thus cause an unwelcomed knock on effect to the end user. Serving of the right type of ad to the right person, the digital version of a 'watershed' in an environment where children and adults may access the same content or services will also be hampered – especially when Ofcom is keen to address areas of obesity[475] – let alone any kind of audience segmentation as simple as distinguishing male and female, for example. Maybe we should all go back to hard coding ads into static web pages then?

The sales of all publisher inventories would equally be affected. Advertisers only wising to deliver and pay for a specific amount of advertising frequency would end up paying far more for delivered ads neither they, publishers nor users want. The commercial implications of this are enormous. All analytics software would be affected – whether determining better content or better advertising. Measuring ROI for advertisers would cease. It all just takes us all backward, not forwards.

Cookies are being targeted for fear of privacy, but actually they do not contain any highly personal information, such as a person's name or address. Cookies are just one the ways Internet-enabled software stores and retrieves data. It's a website saying 'can you hold this, whilst I do this, now can I have it back.' If anything, it is technology assisting. Think of a sensor in a bathroom knowing if someone is in there or not in order to be able to optimize the efficiency of electricity without the need to physically flick a switch. And so this technology is merely optimizing performance of either

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[472] Marshall, J. *EU Adopts Law Requiring User Consent for Cookies*, 10 November 2009. *Available at:* http://www.clickz.com/3635624

[473] *See first paper on suing cookies in advertising at:* http://deandonaldson.wordpress.com/2008/01/31/online-advertising-history-flash-by-name-cookies-by-nature/

[474] *Supra note* 179

[475] *Information gleaned from:* http://www.ofcom.org.uk/research/tv/reports/food_ads/

content or advertising for the benefit of the consumer. Technology is not all bad, however using a sledgehammer to crack a nut is.

Auto-form filling within browsers or search histories, personalised and recommended content, in fact this is already addressed in 'private browsing' in most browsers.[476] End users may not always be aware 'clearly' that usage of media, services and software gives consent for producers to utilise some kind of storage and retrieval for things like digital rights management, offering relevant content, Facebook applications, which emails have been viewed already – or in this specific case less repetitive advertising afforded by the dynamics of the Internet.

In giving consumers choice, a global browser setting saying 'allow all cookies' would probably not be their preferred option as they would wish to control specific consent for each and every website or service, which now each media publisher, online shop or ad technology would be liable to state. Nervous users stating 'no cookies' apparently still will be enforced to have them in certain circumstances anyway, further challenging the premise of global settings. So it will most likely fall down to individual websites to tackle. The whole notion of 'certain circumstances' is farcical.

'If you want to access this site, you can pay and login in which case we will write a cookie to your machine so we know you are logged in to navigate the site, *or* you can access this site free-of charge in which case we will write a cookie to your machine to serve you the right amount of ads and not keep showing you the same ad continually and annoying the heck out of you. Or you can leave now. Your choice.' Without any ability to monetise content through advertising, many websites ad digital content providers, including games and software manufacture, will result in imminent closure unable to justify operational costs. Either way, what it doesn't mean is that someone is going to steal the users identity and sell it to the highest bidder, because this information is not stored in a cookie.

This directive in theory enforces all websites to expect users to 'log-in' – via agreeing to their privacy policy, which could cover advertising – so the next page can utilise cookies or other technology, else any previous information or content a user has been exposed to will not be able to 'removed from' or 'improved in' next results. Deep-linking into any website will still need to go via a login procedure if that site uses cookies, in order for the user to navigate around. Everything will be hindered. If anything this will just push an 'open-ID' concept for user ease of logging in and therefore those responsible for that service will be equally able to collate and track personal data *en masse*.

The wording is not just limited to cookies, but 'any storing and retrieval'[477] so alternatives like Flash Shared Objects or other utilised technologies, is equally covered in this directive – and therefore those too would require specific consent. With the number of applications accessing the Internet

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[476] *Information gleaned from:* http://askbobrankin.com/private_browsing.html
[477] *Supra note* 472

from Instant Messenger, BBC iPlayer, iTunes, TweetDeck to potentially Cable TV, BluRay Live and gaming consoles like Xbox Live would face similar challenges in storing data on a host machines, and this in turn would equally effect management and delivery of content, not just advertising.

The whole premise of the Internet is that it is global – accessed from anywhere. Allowing local national law to amend this could have absolutely devastating effects on the Internet usability across a multitude of media channels – and certainly impact on reworking of websites, which will have commercial consequences. Yet again trying to fix one tiny problem and creating another huge one in its wake and penalising the commercial organizations that help the economy.

It shows governing bodies really are misinformed over how technology works and highlights the need for the industry to self-regulate as well as a take an active role in consumer education, lest people marching forth on a single issue which has wider implications. If we cannot even get over the basics of this, after 15 years, we have no hope for any future developments. The web giants must push back against this law in the same manner they are already tackling *the Digital Economy Bill*.[478]

A glimpse beyond

Despite the seemingly backward step for the web, already we are seeing consumers relying on a multitude of highly personal mobile devices connected the Internet, from phones to cameras to music players or gaming machines, which we seemingly cannot function without. We are seeing wireless headsets utilising brain waves[479] and the promise of mobile handsets or even digital contact lenses overlaying augmented reality information with our natural world as we look through a digital screen.[480] On the advanced extremities there are experimentations with brain chips[481] linking a body nervous system capable of being able to block out pain or boost intelligence or physical abilities[482] in as much as certain food or drugs do today. It gives rise to the concept of the *'cyborg'* where man becomes the machine and vice versa known as *transhumanism* – a strange hybrid seen in sci-fi films – naturally raising questions over ethics in a similar manner to *Frankenstein*.[483]

It is predicted we will have a robot society in the very near future and estimates say that by 2030[484] developed countries will have more robots then humans. Robots will surpass human ability in 10

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[478] *Supra note* 397
[479] *Information gleaned from:* http://emotiv.com
[480] Chen, B.X. *Digital Contacts Will Keep an Eye on Your Vital Signs*, 10 September 2009. *Available at:* http://www.wired.com/gadgetlab/2009/09/ar-contact-lens
[481] BBC News, *Brain chip reads man's thoughts*, 31 March 2005, *Available at:* http://news.bbc.co.uk/1/hi/health/4396387.stm
[482] Shachtman, N. *Top Pentagon Scientists Fear Brain-Modified Foes*, 9 June 2008. *Available at:* http://www.wired.com/dangerroom/2008/06/jason-warns-of/
[483] *Information gleaned from:* http://en.wikipedia.org/wiki/Artificial_intelligence
[484] *Information gleaned from:* http://www.citeulike.org/user/mristo/article/5806749

years or less, in terms of strength or speed, but then mover beyond to the point where it will be near impossible to distinguish *bot* from man as we enter what has been dubbed *the Singularity*.[485] Machines will be able to reason, following evolution and in turn teach computers to think for themselves Computers with superior cognitive abilities to human intelligence are estimated at 25 years away and by 2035 computers will have human level intelligence – capable of learning and be able to reason – and are expected to have *'rights'.*[486] By 2050 the average computer will have processing power of 9bn brains; technology it seems is about to time warp into super-intelligence and outsmart us and no one is sure of the implications of such scientific progress on society at large and many, many more ethical questions will undoubtedly arise.

In looking ahead into the future it is naturally full of optimistic promise and dystopian distress. Interpretation would be a natural course and hoping for a natural balance to emerge is what Graham Gordon is confident will happen in his philosophical approach to the Internet.[487] What seems alien to us today will become normal tomorrow, and already we are finding that digital natives prefer mobile phones to watches for use as preferred timepieces as they embrace a digital culture in radically different ways to their predecessors. Two-thirds of young people today already do not wear watches.[488] Will they in time revert backwards and go 'retro' and buy a watch as fashion accessory. No one is sure. Certainly the economy of Switzerland, for example, has reason to be nervous.

Young *digital natives* embracing social media and sharing every detail of their lives, never losing contact with their friends and challenging the concept older generations have in rediscovering lost friends and organising a reunion – *natives* simply will never lose contact. Their concept of privacy is radically different to their grandparent's culture of 'curtain twitchers'. With this comes a naivety as they feel they have 'nothing to hide'[489] only to discover a cruel world only eager to punish them for misdemeanours. The balance of power already works against them as kidnappers or even the police abuse sensibilities.[490] A parent's role is to protect and teach their children to be wary of strangers for their own safety, and set rules around them for their own protection till they are able to figure things for themselves. Similarly, technologists and marketers must throw notes of caution and wisdom and set boundaries lest the balance is irrevocably reversed against future generations, as the promise of utopia becomes a dystopia simply through technology overtaking us or through power hungry individuals in a position to pursue their goals. Both could pose as much threat to the masses and culture as do the terrorists we seek to stamp out, just more palatable and dressed in a smarter suit.

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[485] *Information gleaned from:* http://en.wikipedia.org/wiki/The_Singularity_is_Near
[486] BBC News, *Robots could demand legal rights*, 21 December 2006. *Available at:* http://news.bbc.co.uk/1/hi/technology/6200005.stm
[487] *Supra note* 190
[488] *Information gleaned from:* http://www.guardian.to/08summer_life.html
[489] *Supra note* 466
[490] *Supra note* 399

Shall we leave technology alone, or bury it, for fear of an unsightly outcome for the future? This will merely drive it underground where it certainly will take a more sinister twist, as well as halt progress that may bring with it hopes for the future and discover cures for some of the most ailing plagues of mankind. We can undo what we have discovered, but we can learn from the past. History has time and time again shown that the concept of power is the highest attainment for man and a taste of it is more often ends up in catastrophic oppression of other individuals, as opposed to the good of mankind. In this regard we must align progress with moral guidelines set forth in an ethical code.

In a democracy that does not mean handing over all power to governments to make authoritarian decisions without consultation with the self-regulating bodies that often have a more intimate concept of the inner workings of the environment they find themselves immersed in which will potentially drive us further then is acceptable or even backwards in certain cases.[491] Fluidity for development in a fast-paced environment reveals that legislation is often not in a position to accommodate at quite the same speed.[492] Yet without any overarching authority, things would be pushed for wellbeing but potentially could have detrimental effects as those involved in the micro aspects of their own work often don't see the macro view of the world from a multitude of viewpoints and able to realise implications and knock-on effects on other areas. And so we find ourselves continuing, as we have throughout time, in striking an uneasy and awkward balance between technological and commercial progress and socio-political boundaries within the confines of ethics and morality that defines the human race, lest we become feral. However, 'the end can never justify the means,'[493] but rather technology can become a means of shaping change.

Given such progress will happen and the potential benefits are not reason enough to halt progress, we must define under what terms and boundaries we can seek to continue. We must realise that also there is a line in which under no circumstances can we be allowed to cross. There are wild cards on both sides of the fence, but balance is found in the contention.[494] Therefore there must be a referee to ensure the fight is fair and pull us back to a centralised position.

Addressing addressability

The discussions around any kind of personal addressability are incredibly contentious and volatile and as shown invoke strong reactions. We have views from ban it all costs, to privacy being overrated, to discrepancies in government policies all adding to the confusion. There are positives and negatives of gargantuan proportions on all sides. Regards RFID we are dealing with a fledgling technology and moving speedily into unchartered territories on a global level with huge implications.

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[491] *Supra note* 471
[492] *Supra note* 397
[493] *Supra note* 207
[494] *Supra note* 197

No one is truly able to predict the impact on culture and societies around the world. Mankind has never had to face anything quite so alarming before, in such haste.

Many people are naturally reluctant to use an *UbiComp* system, even in places like Korea. Fearing exposure of personal details, their activities, whereabouts or transactions especially in an environment where records of transactions are automatically transmitted to tax authorities. 'RFID/USN is a system that makes transactions transparent and helps prevent tax evasion, as it requires the use of credit cards.'[495] Such open transparency naturally makes people feel naked.

What we do know is that this technology is in its infancy and any benefits should not overshadow any vulnerabilities still being worked through. Any discussions around enforced 'micro chipping'[496] of people must be voraciously debated to the point of prevention lest we reduce humans to mere 'atoms'.[497] One because we have no true understanding of physical health risks such as RFID causing cancer,[498] secondly because it is grossly invasive and immoral and all such previous attempts to enforce 'tagging' before have unfortunately ended up in the wrong hands resulting in the termination of millions of people,[499] thirdly because all technology is continually upgraded and makes incredible leaps in very short spaces in time.[500] A proposed RFID chip today will be drastically different tomorrow. Do we really think that implanting children today will be the same technology in their elderly years, when you consider we already change mobiles every 12-18 months?

That is not to say we throw the baby out with the bath water regards RFID, but find ways to assist rather than alarm society through informed choice and public protection, from all who would seek it harm, whether through rogue individuals, commercial organisations or governing bodies through developing and racing headlong into an unchecked system. This is certainly the position of organisations like the American Civil Liberties Union (ACLU) who wish to prevent the enforced use of RFID in tracking of humans in any proposed national identity schemes.[501] However with the rise of *wave-and-pay* credit cards and RFID-enabled phones coming to market, alongside a growth in RFID loyalty and transport cards, I think the 'back-door approach' will eventually see the opt-in consumer

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[495] Myung-Je, C. *Dream Society Controlled by Ubiquitous RFID*, 10 July 2009. Available at: http://www.koreaittimes.com/story/4104/dream-society-controlled-ubiquitous-rfid

[496] *Supra note* 458

[497] *Supra note* 80

[498] Morphy, E. *Possible RFID-Cancer Link Rattles Market*, 11 July 2007. *Available at:* http://www.technewsworld.com/story/59295.html?wlc=1260122415

[499] *Supra note* 446

[500] *Supra note* 31

[501] *ACLU Letter to the Data Privacy and Integrity Advisory Committee Regarding Its Report "The Use of RFID for Human Identification"*, 28 July 2006. *Available at:* http://www.aclu.org/technology-and-liberty/aclu-letter-data-privacy-and-integrity-advisory-committee-regarding-its-repor

adoption pave the way for RFID national identity card schemes – especially when you consider UK and other countries already have passports with RFID chips embedded within them.[502]

The implications for behavioural targeting or addressable advertising are already here and will only be exasperated as we move forward in all corners of the globe, through RFID or otherwise.[503] Adoption needs to be grounded in a two-fold approach. Firstly there needs to be commitment for investigation in the areas surrounding RFID security – how to allow open access when needed and lock-down when not. It has to be proven to be infallible. Secondly, there needs to be total transparency on behalf of the advertiser and complete control by the consumer for addressable advertising to move forward.

Jim Morris of Carnegie-Mellon University proposed a general method for approaching the security issues: 'build computer systems to have the same privacy safeguards as the real world, but no more, so that ethical conventions will apply regardless of setting. In the physical world, for example, burglars can break through a locked door, but they leave evidence in doing so. Computers built according to Morris's rule would not attempt to be utterly proof against cracker, but they would be impossible to enter without leaving the digital equivalent of fingerprints.'[504] Given the ease in scamming credit cards currently, I am not sure this goes far enough, but fortunately companies like RSA Laboratories are now researching 'new techniques to help protect the privacy and security of businesses and consumers in RFID environments.'[505]

Towards transparency, the creative agency Ogilvy, under the direction of global marketing communications company WPP has worked alongside the Future of Privacy Forum (FPF) to create icons that clearly show consumers when ads are behaviourally targeted. Concerned that privacy policies were not being read or understood, a simple graphical touch-point to be used on websites and with ads to show open transparency to consumers when relevant ads are being served.[506] The concept hopes to gain consumer confidence in the same way a 'padlock symbol' was introduced to browsers to denote when secure pages were being used in e-commerce in order to provide a visual aid whilst online transaction were taking place.

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[502] *Supra note* 436
[503] Xiller GmbH, *The potential and dangers of advertising with RFID*, 12 August 2009. *Available at:* http://www.pressreleasepoint.com/potential-and-dangers-advertising-rfid
[504] *Supra note* 79
[505] *Supra note* 143
[506] Future of Privacy Forum, *Future of Privacy Forum Unveils New Privacy and Personalization Symbols Finalists*, 4 December 2009. *Available at:* http://www.futureofprivacy.org/2009/12/04/future-of-privacy-forum-unveils-new-privacy-and-personalization-symbols-finalists

"Only by being more transparent and dispelling the notion that behavioural advertising is a secret process can businesses partner with consumers to deliver personalization that will be valued."[507]

It is seen as a first step into helping consumers know what is going on, which will need to be supported by other more transparent processes. Informed debate and education, through value exchange, are also going to be key areas that the industry needs to address.

Personalised environments

In regards to the technical ability isolate individuals through RFID especially where there are multiple people in vicinity of a screen, such as television or in front of a billboard, there are already ways that have been trialled that can highlight grouped demographics of audiences as demonstrated by *SmarTrack* in the US[508] or as to whether users are actually looking at screens as deployed by *Quividi* in France.[509] In a multiple viewing environment in homes *Invidi* can ascertain users of remote controls through haptic interaction with the handset, whether aggressively or hastily, which determines the determine the gender within 120 seconds and within two days determine the age and gender of everyone in the home,[510] and there are other patents addressing multi-viewing across televisions.[511] In an email interview with Michael Hanafee at *Invidi*, he stated:

"Cable, satellite and telco television service providers are now rolling out targeted addressable advertising that not only gets the right message to the right person but it allows multiple commercials to be delivered in a single commercial break with each commercial going to a different market segment or demographic. The lift in advertising spend per commercial break is significant and allows all players to share in the revenue value chain. Privacy is a foundation principle upon which INVIDI Technologies Corporation operates. We purposely choose a technology approach that uses a system of algorithms, vectors and third party Nielsen program information that describes the audience of different television programs. INVIDI never knows any personally identifiable information, program name, movie titles, channel and does not store any information."[512]

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[507] *Id*

[508] *Supra note* 171

[509] *Supra note* 167

[510] *Supra note* 15

[511] USPTO Patent Application 20090167839, *Methods and apparatus for providing communication between multiple television viewers*, 2 July 2009. *Available at:* http://www.freshpatents.com/-dt20090702ptan20090167839.php?type=description

[512] Taken from an email exchange with Michael Hanafee on 24 November 2009.

Cable TV, media centres and gaming consoles all have the ability for personal logins to customise the experience from both individual and grouped usage. Technologies like Microsoft's Project Natal[513] that use cameras on TVs for controller-free entertainment use facial recognition technologies. Mobile devices are the most personally addressable of all as registered to each individual. The advancement in GPS and NFC location based services in getting ever closer to pin point accurate positioning and the fact user registration of RFID cards seen in Omni Cards in the US,[514] or the various initiatives with RFID handheld devices in Japan all point to an incredibly accurate targeting capabilities and will only seek to improve through time. Real-time multi-channel addressable advertising will therefore become a reality as each screen takes a digital connection via the Internet.

ESOMAR's WM3 (Worldwide Multimedia Measurement) conference has already begun discussing different targeting abilities across media,[515] and ComScore is pushing for a move towards Person-Centric measurements that seek to move beyond panel measurements to find a new granularity in online audiences.[516] In thinking through measurements, one can already see the premise of *Dwell Time*[517] being to the next level: not just how long someone has interacted with a display ad online, but by measuring passive exposure and active exposure through cameras on billboards,[518] for example, ascertaining both the number of people walking past and length of time actively looking at a screen right the way to the length of time a product is being held in the hand in shops. There are issues here that need to be worked through, but there is certainly potential given NFC technology advancements. Jeff Cole from the Centre for Digital Future, suggests,

> *"Addressability new metrics and a reversal of the laws of nature make the new (and more complex) rules of advertising worth the effort. With proper counsel and navigation, advertisers enter a new era."*[519]

The notion of trading content for advertising or even technology devices themselves in return for advertising is going to see a rise in consumer acceptance of addressable advertising as they realise the value exchange. The model for consumer adoption will require users to freely volunteer demographic and personal information and to specify the sort of advertisements they will accept.[520]

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[513] *Information gleaned from:* http://www.xbox.com/en-US/live/projectnatal
[514] *Supra note* 151
[515] *Information gleaned from:* http://www.warc.com/ConferenceBlogs/ESOMAR-062008.asp
[516] *Information gleaned from:*
http://www.comscore.com/Press_Events/Presentations_Whitepapers/2009/Proposal_for_a_New_Person-Centric_Measure
[517] See my previous paper on *"Dwell Time"* at: http://deandonaldson.wordpress.com/2009/08/14/online-display-the-demise-of-click-the-rise-of-dwell
[518] *Supra note* 165
[519] *Supra note* 295
[520] *Supra note* 164

The online streaming music service *Spotify* already places both visual and audio ads within its software, allowing consumers to listen to music freely around the world but receive ads targeted on consumer registration data so that ads from their own country and native language are served to them. The consumer can upgrade to a subscription-based model in which case there are no ads. In this regard the consumer has choice. Though certainly in the mid of one young consumer it does not go far enough.

> *"You shud ask costumers wot dare intrests are and then you can target the right ads at the right people. They'll be more of a chance that people will actually respond to the service/product being advertised."*[521] 'Malteasermel' re: *Spotify* ads. Age unknown.

There are already trials in operation where mobile phones are given away alongside free voice bundles and SMS text packages if consumers agree to accept advertising through the likes of Finnish company *Blyk*, under the direction of former Nokia president Pekka Ala-Pietila.[522] It is a view also held by Google CEO, Eric Schmidt who stated, "your mobile phone should be free, it just makes sense that subsidies should increase" as advertising rises on mobile phones.[523] Crucial to Blyk's system is creating advertisements that attract users, so subscribers are asked to fill out a questionnaire on the Internet that includes both personal details and interests and then advertisements sent to the phone are be based on those answers. Antti Ohrling, co-founder of Blyk explained that, "we intend on only advertising information that people want and in a fun way. To succeed, we must offer an enjoyable and simple user experience."[524]

Towards a transparent consumer model

In addressing consumer concerns and reactions, and drawing them on side, we can surmise the discussion would go as follows:

- Do you wish to receive advertising? [Y/N]   – No
- Do you wish for advertiser to track you? [Y/N]   – Definitely NOT!!
- Do you wish to pay for content access online? [Y/N]   – Mostly not
- Would you like to receive content based on your preferences? [Y/N]   – Possibly
- Would you accept advertising in exchange for free content? [Y/N]   – Possibly
- Would you like to receive discounts from your favourite brands? [Y/N]   – Yes
- Would you like control over what type of ads you would like to see? [Y/N] – Yes

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[521] *Supra note:* 14

[522] Crampton, T. *Coming to (free) mobile phones for youths: Ads*, 1 Novmeber 2006. *Available at:* http://www.nytimes.com/2006/11/01/technology/01iht-mobile.3360731.html?_r=1

[523] Reuters, *Google CEO sees free cell phone service*, 13 November 2006. *Available at:* http://www.msnbc.msn.com/id/15700344

[524] *Supra note* 522

The change in behaviour anticipated is through education as to a value exchange program. This can then be enhanced further assuming the consumer is prepared to accept ads, potentially targeted.

- Do you want to see feminine hygiene ads? [Y/N] — No, I'm a guy
- Do you want your children to see fast-food ads? [Y/N] — No, obesity
  (Ok, so you really would like a choice, and accept this is targeting…) — Hmm, ok
- Would you prefer to see car and gadget ads? [Y/N] — Yes
- Would you prefer your children to see healthy food ads? [Y/N] — Yes
- Would your wife be interested in high street fashion ads? [Y/N] — Yes

Once the consumer has caught the concept, there are further levels this can be taken to.

- Do you want to be able to change your preferences regularly? [Y/N] — Yes
- Using checkboxes, select your favourite brands [Diesel, Apple, Audi] — Check
- Using checkboxes, select your disliked categories [Feminine Hygiene] — Check
- Using checkboxes, select today's choice [Long haul holidays, golf clubs] — Check
  (If I can convince you this is totally safe, do you wish to proceed) — Hmm, ok
- Would you prefer to see these types of ads when online? [Y/N] — Yes
- Would you prefer to see these types of ads on your mobile? [Y/N] — Possibly
- Would you prefer to see these types of ads when on your TV? [Y/N] — Yes
- Would you prefer to see these types of ads when on billboards? [Y/N] — No, lock
- Would you like discounts from your brands sent to you by email? [Y/N] — No
- Would you like mobile coupons as you walk into relevant stores? [Y/N] — Yes

The concept described is based around a central website that would resemble a loyalty programme, in a similar vein to *Nectar* online.[525]Each person is required to set up an account, which includes personal data including all demographics, age, gender, home address, chosen language, etc.

The user is able to select their favourite brands as a way of keeping in touch with them as well as generic categories they don't mind seeing (a minimum number is required). They can also highlight brands or categories the never want to hear from, such as feminine hygiene products. The user also is able to select types of offers based upon things they are currently pursuing such as buying a set of golf clubs today, booking a holiday tomorrow – then subsequently able to turn these items off as and when they have fulfilled their purchase and select new ones – now I need to buy a washing machine.

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[525] *Further information at:* http://www.nectar.com

At any time a user can go back in and select the type of ads they wish or do not wish to receive. All ads would carry a visual recognition of being targeted by carrying the proposed logo.[526]

The options to add family members under a group programme, link these into purchases for capturing loyalty data, linking to friends to passing over points or suggestions as gifts, receiving suggestions from friends, etc.

Advertisers can also select target demographic data to address certain ads towards across devices or choose more premium rewards to more loyal consumers, which would give a confidence in ROI against declining traditional online display practices. Advertisers would be charged a premium for delivery of their messages. If certain advertisers find themselves black-listed it means they have a terrible reputation and need to work harder on their PR so as consumer acceptance becomes viral through people recommending them to others. Rewards could be set-up to achieve this.

The user is also to register each of their Internet enabled device; computers both home and work, mobile phones, IPTV, Set-top boxes, gaming consoles and any other devices they currently receive ads upon. Supposing RFID is enabled either on a loyalty card or mobile device, this can be widened to areas out of home through a secure personal network. A level of security would exist to not transmit data in open areas if they did not wish, but only devices they have chosen to register. They can of course change these preferences. They can also opt-in and out of subscription based content thereby disabling ads in areas that they currently pay, so selected websites, TV channels, games, movies, radio stations would not receive ads where as in other areas they would. They also have the choice to make a free phone call and hear an ad, or choose to pay from their pay-as-you go bundle – so for work calls they may choose no ads, personal they choose ads. They can of course disable all ads in a subscription-based model. The same would be true in text and data bundling.

Ads are always targeted to them in their chosen language irrespective of where they find themselves in the world, potentially in any device they happen to be in front of – such as opting in to hotel based televisions systems or phones which could alternate between ads and pay-as-you go as necessary.

This central system can also be linked to preferences on content from books, to TV shows, to movies and games, etc. Thereby giving a consumer total transparent control over all advertising and content both online and any commercial UbiComp environment in which they choose to participate.

Reflection on the proposal

This concept of addressable advertising and personalisation of media starts with a complete rebuild of the infrastructural foundations and tackles mindsets that are highlighted as seedy and underhand

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[526] *supra note* 506

methods in tracking of ads which are seen as both intrusive and largely unwanted. It would provide a new ethical framework to provide balance between brands and their consumers.

In this proposed plan towards an open addressable advertising system based on behavioural choices, offering both transparencies to the consumer as well as reward to them. It brings consumer focussed media and advertising that also suffices the advertiser's needs for granular metrics. It allows Information, content and advertising to all work in a more harmonious way and could lead the way to highlight new commercial opportunities such as a new advertising trading platform or new sponsored content opportunities through the development of new branded TV channels, for example, based upon knowledge of consumers interested in particular brands.

Bad advertising in intrusive, good advertising is enhancement – it is information to aid decision-making especially when a consumer truly is in control afforded by wanted targeted relevancy. It could also pave the way for a new code of practice and regulatory authority in which the consumer is very much at the centre in a way described by Adam Greenfield[527] and would suffice both current targeting requirements as well as provide a platform for growth into ubiquitous networks.

It seeks to remove the neo-luddite fear of embracing new technology and quashing the big-brother nightmarish dystopia. It would appease governmental concerns surrounding opt-in tracking, and providing relevant security is set in place, it could appease privacy advocates also.

The system proposed seeks to strike a cultural balance of power discussed by Tim Jordan[528] and a balanced development of information technology described by Gordon Graham.[529] It also provides the level of control to an Individual demanded by John Stuart Mills,[530] though I would argue it is taking a more deontological approach to provide an ethical framework based on the premise that is intrinsically good, irrespective of the outcome. Using *inductive reasoning* to explore all the aspects of developments to date in both addressable advertising online and through RFID deployments, it could be said that the concept moves from a propositional to a procedural viewpoint as it moves from *knowing about* the issues to potentially *knowing how* to solve the issue. This would need to be explored now through *deductive reasoning* to see if the theory stacks up through implementation and observation to see if a confirmation of the theory can be achieved.[531]

In as much as it is trying to positively align with the powerful forces of change that are affecting our world, the proposal would provide the basis for a macro-environmental PEST (Political, Economic, Socio-Cultural and Technological) analysis that attempts to manage rapid, major change and tackling

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[527] *Supra note* 176
[528] *Supra note* 188
[529] *Supra note* 190
[530] *Supra note* 205
[531] *Supra note* 196

both the new opportunities and arising threats.[532] In order to actually bring any weight to this concept from an R&D point of view, I would need to drill deeper into a more granular investigation of the proposal in utilising something like a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis in order to fully develop a business case in developing this strategic alternative.[533]

Conclusion

During the course of my research my own thoughts on this technology have been both challenged and confirmed, certainly refined, and in some cases turned completely upside down. It's as if I have been through a refining mill. My own preconceptions before were that RFID are the new barcodes, unique tiny tracking tags. In that regard it is easy to identify with deeply sinister overtones of *Big Brother* and a mere destructive force to humanity which would certainly be seen in the dystopian angle I have previously taken on my blog.[534] How misinformed. RFID are mini-computers in their own right, complete with environmental sensors that can draw on even greater processing power from the *Cloud* when required.[535] It radically alters our concept of computing and just as we are seeing a shift in using the Internet via applications on our mobiles as opposed to just using a web browser on a PC,[536] just as we are used to lights that automatically come on when you walk into a bathroom or ABS on cars preventing the brakes locking up, so *UbiComp* is a natural progression towards convenience afforded by invisible computers and will be much welcomed by consumers.

Using your mobile to turn the heating and lights off or the washer on whilst away from home, to see who's at your front door from any room in the home, refuse bins that can detail replacement items and add to a shopping list on your mobile, home appliances that recognise what is on or inside them and able to auto set themselves or communicate with us. The savings in utility bills from smarter and more efficient uses of electricity or water – there is a lot of good and exciting reasons. Gadgets are great – but do we really want some pervert to know what colour underwear I am wearing simply by pointing my phone at us and reading the tags embedded in clothes? Do we really want a thief to tell what's inside our purse, on our person, in our home by driving by – and know if anyone is inside?

So are there concerns justified over this technology being used to snoop and track people by any pervert, thief or rogue state? Absolutely and I say wholeheartedly, yes! The read-write capabilities actually intensify the concerns as the chips become more powerful and self-aware. And to these

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[532] *Information gleaned from:* http://www.mindtools.com/pages/article/newTMC_09.htm
[533] *Information gleaned from:* http://www.netmba.com/strategy/swot
[534] For further information see: http://deandonaldson.com
[535] BBC News, *Grid computing tunes tiny transistors for future chips*, 4 December 2009. *Available at:* http://news.bbc.co.uk/2/hi/technology/8393454.stm
[536] Buskirk, E.V. *Apple's Purchase of Lala Could Signal Cheaper, Streaming iTunes*, 4 December 2009, *Available at:* http://www.wired.com/epicenter/2009/12/apples-reported-lala-talks-could-lead-to-cheaper-cloud-based-itunes

ends we cannot dismiss this as conspiracy or paranoia, or brush humans aside for capitalist commercial gains. As we push forward with this technology we owe it to our children to think about the consequences of our actions and let them guide a moral and ethical framework for development less we do end up creating a dystopian future where we truly have handed over all power, creativity and freedom of expression to a system that could result in a very soulless society. What is obvious is that safeguards need to be in place for technology to help and not hinder.

Perhaps one answer for RFID lies in the pairing of devices in a similar way we pair a wireless headset to a mobile phone now. Linking *my* shopping to *my* refrigerator or *my* appliances to *my* home so no one else can read them by idly driving down the road with a scanner in the same easy way as they jump on open home Wi-Fi networks now. We need digital curtains to prevent prying eyes of a peeping tom looking through our digital windows – whether that is a person or state. Openness still needs to be safe, like a fence around our gardens. Preventing RFID credit cards or eWallets on phones from being activated and read by scanners at a distance until I choose to use them and safe in the knowledge even then that the wireless security prevents a rogue reader skimming my number. Quite how this will work practically is a matter for the technologists who develop usable security.[537]

To the privacy advocates or conspiracy theorists that want to throw the baby out with the bathwater I would ask 'do you own a mobile phone?' Because if the answer is yes, currently they are a lot more sophisticated, traceable and monitoring of our actions and communications then RFID is capable of presently and we are all becoming a lot more dependent upon them. It is no longer sufficient to call them mobiles or cells 'phones' as they too are mini computers. RFID in this regard is just a microcomputer. We do not fear 'mobiles' but we use them sensibly and with regard for ensuring our data and transactions whether communicatitive or financial are 'safe' but aware of any misdemeanour could result in a subpoena of the device and its contents and used against us as evidence. So we must be mindful of hypocrisy in discussing using technology whilst accepting a voice is indeed needed to bring a challenge for things to not go unchecked and to seek truth beyond the hype. It is in this regard I support the need for an ethical and honest debate whilst accepting that technology will move on and society will change and the past was not so rosy.

As to governments wising to 'know everything' I would question if the fence we are building to protect us and keep others out, becomes a prison to lock us all in. In enforcing the tiniest detail of the law with an iron fist, it questions what is the purpose in all this or what do we truly fear? It is a slippery slope to suspect everyone whilst missing the fact that no one is perfect. We must hold humanity in regard for being able to pick itself up, to learn and move on. We would not punish a child and lock it in a room for the tiniest mistake – we would crush its confidence and stifle its

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[537] Supra note 143

growth – eventually turning it to hate us. The same is true with this implementation of this technology, data mining to punish the most seemingly insignificant of misdemeanours for the sake of crime figures. Rushing head on into a surveillance state will have repercussions for a world that politicians themselves would not wish to live in, setting standards too high for anyone to achieve.

And here we find the tension, in which we must strike a balance if we are to advance together.

From a commercial perspective, there are a huge amount of benefits for marketers, not in sneaking behind the bike sheds or rifling through bins, but in openness and frank discussions with the people they are wishing to do business with – their customers, their clients – the consumer. If anything web 2.0 and social media has taught us that it is indeed a two-way conversation. This next iteration, call it web 3.0 – will demand even greater respect, openness and mutual trust. In the same manner a doctor would ask his patient if they would not mind them monitoring them in order to determine the best course of action to help them, so we too must ask consumers if they would be prepared to allow us to help them achieve their goals and assist them in finding information, services or products relevant to them in the same manner a search engine can now, but even far better than before. Huge efficiencies in media expenditure can be expected and greater relevance to consumers at their point of need will facilitate an increase in sales as well as provide greater ROI. Agencies can run leaner and smarter, working with technology and data in truly meaningful ways. However, customer opt-in must be sought at the very highest level, lest backlash results in lock-down.

In as much as the industry needs to self regulate and put guards in place, it needs do this in co-operation and full regard to national and international laws in open and frank debate. The danger of any one party working in isolation is for things to go askew. Commercial agencies data mining without regard thinking 'they own the data' and missing the human face of those numbers. Similarly can we really trust the governments not to demand the data and leave themselves unchecked? Either way in the wrong hands – either now or future – recent history has taught us what can happen with personal identity thefts or in larger scale events such as genocides in Rwanda or Germany with companies like IBM finding their technology being used in the most sinister of ways. Once the system is in place there is no way back, and this could turn around and bite a lot of people. It's a real threat in marking people for the future beast.[538]Consumer opt-in is therefore are not enough; safeguards as to what happens to the data beyond must be held in the highest regard away from commercial or political agencies where assumed usage is being undermined by continuingly changing policies.

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[538] Biblical quotation taken from *Revelation 13:16-17* which discusses a future sinister society where an evil overlord restricts all humans from being able to buy or sell without proving ownership through his revealing his branding upon them and thereby reduces humans to mere animals on a farm ready to be slaughtered.

The sharing of personal data between commercial organisations, despite potential benefits is hugely contentious. Knowledge of 'generics' in as much as one is in the market for a new car, is different to the fact *I* have put a can of *Coke* in the bin, therefore a marketing war between *Coke* and *Pepsi* breaks out. Given that the nature of marketing in a commercial setting is trying to persuade consumers to leave one brand in favour of another, whilst the host brand persuades equally tries to persuade them to stay. Knowledge of the tipping points is highly sought after, whether through neurophysiological, psychological or circumstantial understanding at either a macro or micro level, i.e. anticipated behaviour of a certain culture profile versus a personal profile.

This is not a local, but a global issue – not bound to any particular territory. Advancements in RFID roll out are happening across all nations, no matter how commercially stable or technologically advanced one nation is, communication, information and travel are cross-borders. Open working practices and agreed deployment standards both must need to be pursued with equal vigour.

Discussion over RFID from a commercial and national security perspective cannot be seen as mutually exclusive issues. There is no point pushing for choice to opt-in for advertising perspectives and usher in legislation surrounding this, when the very fabric of society is being undermined through the continued spin for a surveillance state where governing public bodies have unparallel access to intimately personal data and potentially more so with the development of greater advanced systems.

Transparency and education must be afforded to the consumer. If RFID chips are fixed and unable to be deactivated – how can a consumer opt-out? Especially if required to return items as proof by means of electronic billet? Despite the hype they are NOT deactivated once leaving the store… and certainly not in a way that cannot later be reactivated, potentially by the wrong people. Do we have curtains in our homes? Do we close the door when we go to the bathroom? Do we even tell our spouses or other family members 'everything'? Have we ever crossed the speed limit? Ever done something and regretted it afterwards - and feel glad that 'you got away with it'? What if everything you said, did and thought was available for someone to read and act upon. That is the system of UbiComp and despite all its advantages we must tread warily and speedily in our endeavours. Privacy is a basic human right. You decided what, where and when, no one else. We are human beings, not animals who bleat baaaaaa!!

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