

Item-Level RFID and Privacy

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Agenda

- Introduction to RFID
- Current RFID Item Level Applications
- Articulated Privacy Concerns
- US and Europe: Main Regulatory Differences
- Towards Policy Regulations
- RFID: Efficiency versus Privacy

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Radio Frequency Identification (RFID)

- Reading and saving data, contact-free, and with no line-of-sight needed between transmitter and receiver
- Data saved on RFID transponders (tags) and read via electromagnetic waves (radio frequency field)
- 'Complete infrastructure' enabling wireless reading of information from RFID tag as well as integration into enterprise systems

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Passive Tag, 13.56 Mhz, < 1.5 meter range

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Radio Frequency Identification (RFID)

on Palettes
and Cases



on Items

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Item-Level Tags in So-Called 'Future Store', Worldwide First Retailing Test

Test Product in Future Store	Focus
- 'Philadelphia' cream cheese (Kraft Food)	➤ Expiration dates and out-of-stock issues
- 'Pantene' shampoo (Procter & Gamble)	➤ Innovative marketing concepts
- 'Mach 3 Turbo' razor blades (Gillette)	➤ Anti-theft protection
- CDs, DVDs, VHS (various manufacturers / labels)	➤ Youth protection etc, theft prevention (similar to Electronic Article Surveillance - EAS)

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Further Item-Level RFID Application Opportunities

- Logistics
- Tickets (public transport, concerts...)
- Electronic money
- Banknotes (security)
- Animal identification
- Libraries
- ...

and challenges ...

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CapGemini Study, Nov. 14, 2004: 2,000 Consumers from UK, FR, GE, and NL (1)

- RFID-Awareness among European consumers: 18 %
 - If familiar with RFID:
 - 39% believe that price of products will rise,
 - 11% believe that tags will lower costs of products
- Perceptions of RFID tag benefits
 - Improved anti-theft measures
 - Leading to faster recovery of stolen items
 - Better security for prescription drugs
 - Safer foods
 - Faster and more reliable recall notices
 - Quicker checkout
 - Reduced counterfeiting

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CapGemini Study, Nov. 14, 2004: 2,000 Consumers from UK, FR, GE, and NL (2)

Selected Findings	Requirements
• 75% in UK and 59% of all respondents believe that consumer data could be shared and used by third parties	• Legislation on privacy protection
• 73% in UK and 52% of all respondents worried to be targeted with more direct marketing	• Ability to disable RFID tags at store after purchase (Concern that RFID could be used to monitor them outside the store)
• 8% expressed negative perception	• Customer opt-in vs. opt-out choice regarding information collected via the tags
	• Clear labels showing RFID-enabled tags

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US vs. Europe: Main Regulatory Differences and Differences in Approach



- Universal Access Principle
- Build IT first
 - ➡ Then see if regulation needed
- Case Law Tradition



- No Universal Access Principle
- Study IT impact & needed regulation
 - ➡ Then build
- Napoleonic Law Tradition

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Rather Scattered US Approach to RFID Privacy Policy and Regulation

- CASPIAN (Consumers Against Supermarket Privacy Invasion and Numbering)
- MIT's Auto ID Center
- EPIC (Electronic Privacy Information Center)
- EFF (Electronic Frontier Foundation)
- State of Utah House
- ALA (American Library Association)
- Book Industry Study Group (BISG)

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EU RFID Privacy Legislation - Requirements as of Dec. 2004 -

Retailers must disclose

- presence of RFID tags on products and presence of readers,
- how they intend to gather and control the information,
- for which purposes information will be used,
- who will control data,
- how to discard tag from the product,
- how to exercise the right to access the information on the tag,
- ...

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EU RFID Privacy Legislation - First Working Group Document 105 (Jan. 2005) -

- Outlining RFID's potential in variety of business sectors, incl. health care, retail, pharmaceutical, and logistics;
- Calling attention to need for companies to comply with principals in EU privacy directives whenever personal data is collected using RFID;
- Guiding makers of RFID tags, readers, applications, as well as standards bodies on their responsibility to develop privacy-compliant technology;
- Requiring consumers possibility to delete personal info from tags if tags affixed permanently.

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Practical Regulatory Manifestations

- **Laws** (e.g., current privacy and data protection laws)
- **Rules** (e.g., certain regulations (EU, OECD, UN, etc.))
- **Policies** (e.g., policies agreed upon by 2003 International Conference of Data Protection and Privacy Commissioners)
- **Self-Regulation** (e.g., US Book Industry (BISG))

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2003 International Conference of Data Protection and Privacy Commissioners (in Sydney)

Personal information collected via RFID tags

- To be Collected or used to profile customers *ONLY IF* no other way of achieving the goal sought;
- Requiring individuals to be fully informed
- To be used only for specific purpose for which it is collected and to be destroyed after purpose is achieved;
- Requiring individuals to be able to delete information, or disable or destroy any RFID tag in their possession.

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Towards Policy Regulations Wanted: One Smart Balancing Act



- Nurturing New Information Technology
- Balancing Privacy and New IT Development

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Item-Level RFID: Efficiency versus Privacy

Efficiency

- Easy / ideal tracking
- Cost reductions
- Reduction in theft
- Increase in security/safety
- Consumer empowerment

Privacy

- Privacy invasions / personal tracking
- Annoyances
- Loss of privacy
- Possible individual in-store tracking

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Item-Level RFID: Efficiency versus Privacy

"Companies that can't protect or don't respect their customers' information are going to pay a heavy price. Not only will they lose customers, but industry experts predict a huge opportunity for class-action lawsuits stemming from privacy violations."

Source: Duffy, Daintry, You know what they did last night, *CIO Magazine*, April, 2000.

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.... Questions, Comments, Complaints ?

Thank you very much for your attention !

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