

Paper presentation and Panel Discussion
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Shaping Ubiquity for the developing World



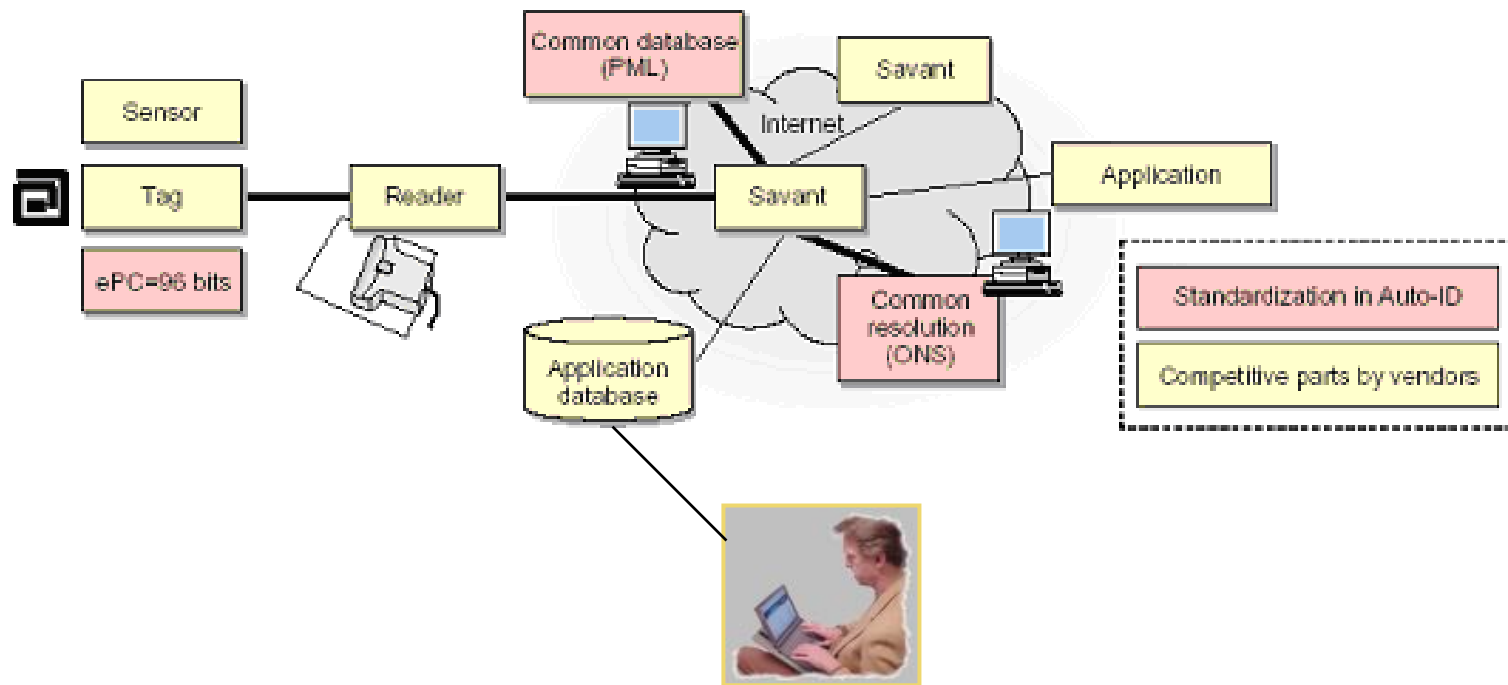
To discuss the issues of privacy policies, especially for developing countries, in context of RFID and similar ubiquitous technologies for wider applicability and adoption by consumers, Governments and industry bodies.

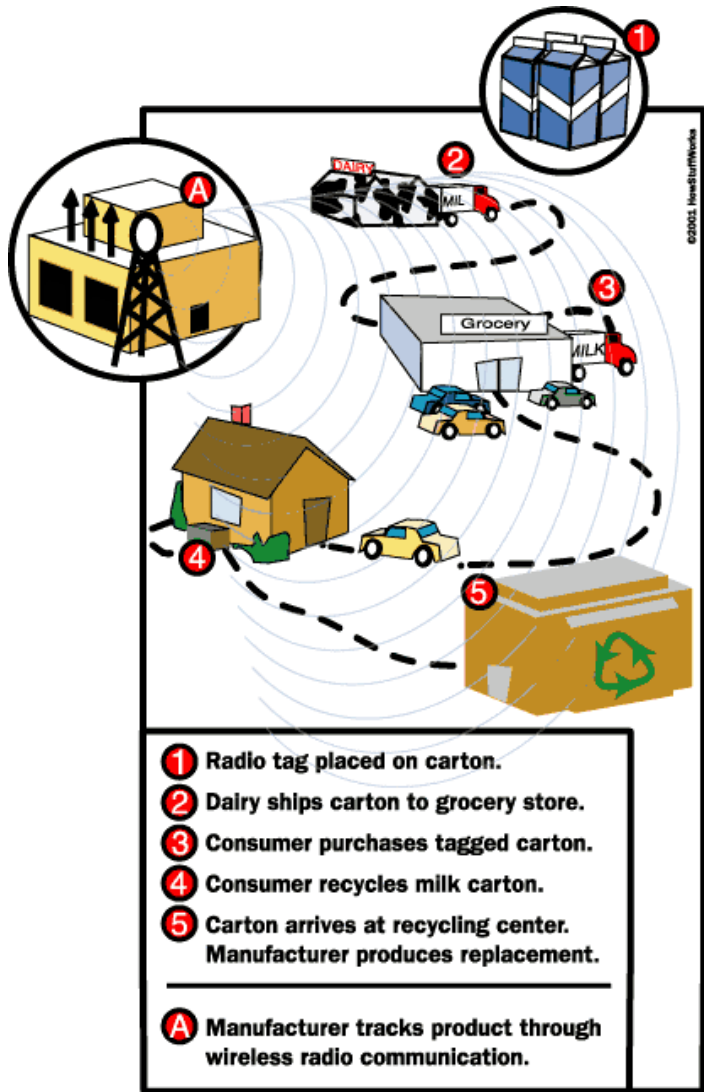
Ubiquitous technology is pervasive in nature and unobtrusively embedded in the environment, completely connected, intuitive, effortlessly portable, and constantly available.

Tools expected to support Ubiquity:

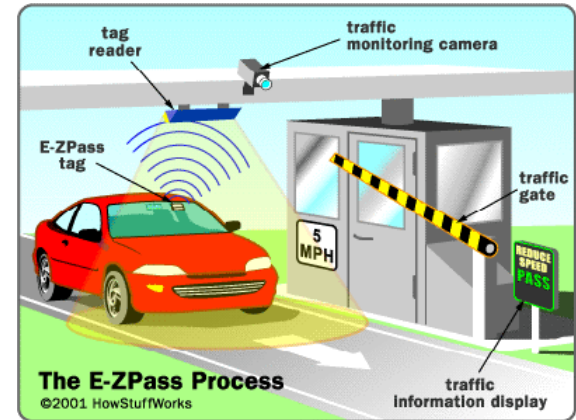
- Automatic Identification Technology (AIT – RFID, Barcodes etc.)
- Perceptive interfaces
- Flexible transistors
- GPS
- Cellular Technologies

RFID is perceived as a backbone for ubiquitous technology environment, in which information and communication flows everywhere, for everyone, at all times.





Intelligent Shopping Basket



Automatic payment

*Tracking products in Supply Chain by
RFID*

When RF tags are attached to all consumer products, customers will be able to search all information* in a shopping basket



- Food Sanitation Law in Japan stipulates that some allergens must be indicated on package and some (abalone, squid, shrimp/Pawn etc.) may be omitted due to lack of space.

- With usage of RFID customers can validate allergens which are not printed on the package with their medical history for making purchasing decision



Benefits

- Trace and Track thus enhancing safety and security for human beings
- Universal usability

- Seamless Transaction (Convenience and increased efficiency)
- Reduced Costs
- Increased profits

Risks Associated

- 'Location Privacy' greatly reduced – Anyone (Government, Unauthorized third party) with compatible RF hardware have access of information
- Dangers to Security violation

- 'Information Privacy' reduced by development of detailed (accurate ??) profiles of customers, based on records of transactions: Linking of personal data with financial, medical data etc.
- Misuse of data with respect of unwanted obtrusive marketing calls (lawsuits ??), employee background – medical records (Job Loss?)

New World Order – Mark of the beast ?

"The problem, while often couched in terms of privacy, is really one of control. If the computational system is invisible as well as extensive, it becomes hard to know what is controlling what, what is connected to what, where information is flowing, how it is being used, what is broken, and what are the consequences of any given action."

(Mark Weiser et al., "The origins of ubiquitous Computing research at PARC in the late 1980s", IBM Systems Journal, 1999)

Dangers of no policy on RFID usage and control

Customers boycotting RFID usage

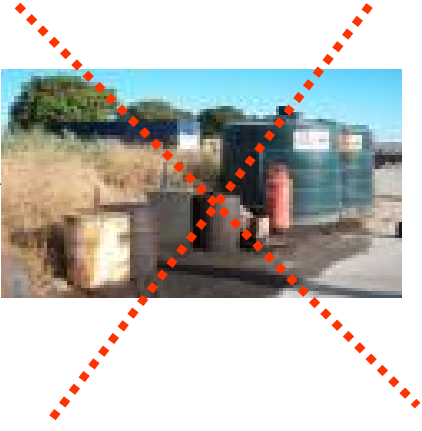
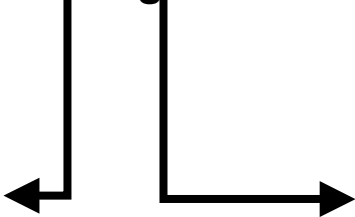


OR

*Customers killing the tags at POS,
leading to*



***Inefficient Warranty
Claims Management***



***Inefficient Waste
Management***

State of Retailing: Developing Countries

Retailers Today: Multi-Country, Multi-Format		
200 Largest Retailers	1997	2002
Countries of operation, avg.	3.7	5.3
Retail formats, avg.	1.9	2.6
Retailers that operate in only 1 country	103	84
Retailers with sales >\$25 billion	13	23

Source: "Global Powers of Retailing," 2004 and 1999, Deloitte

Wal-Mart in developing countries

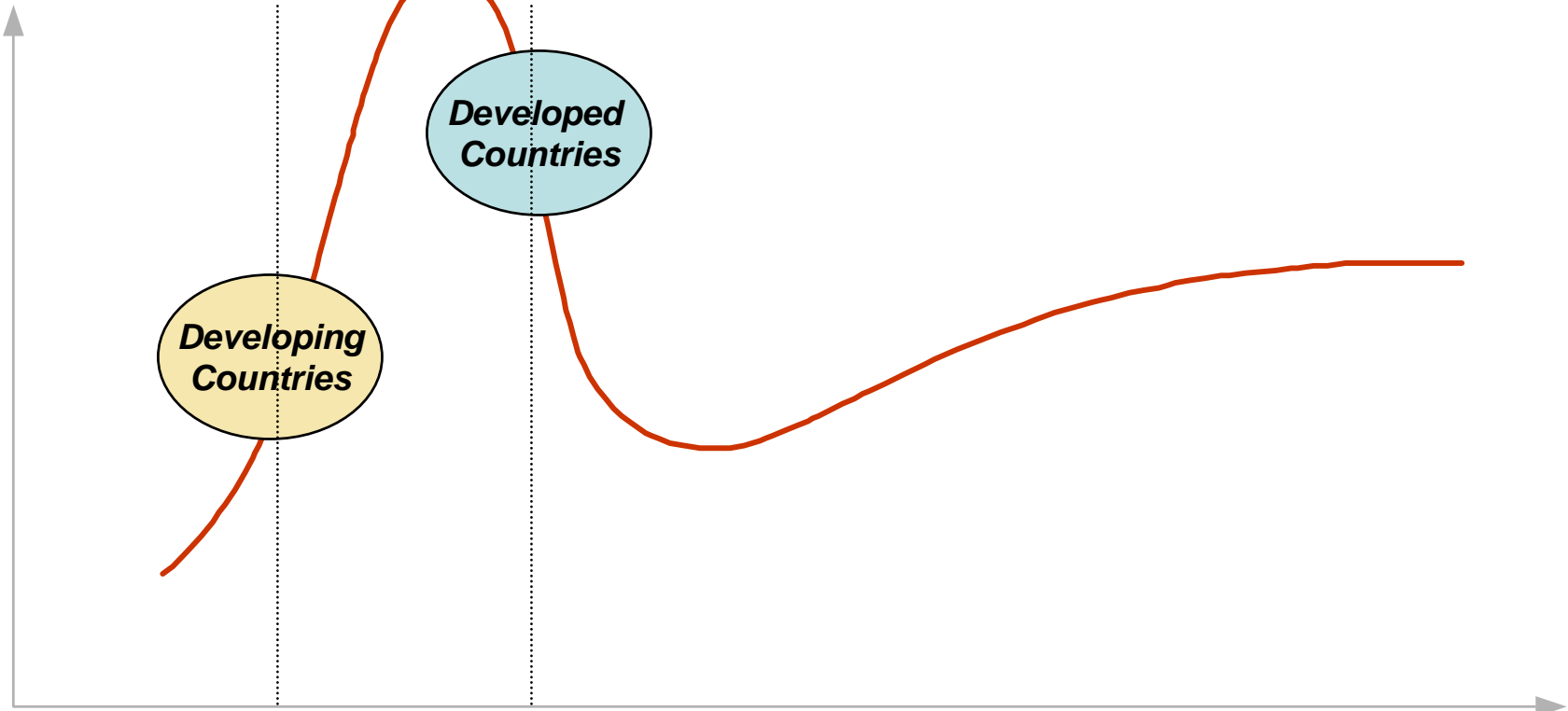
Brazil
China
Mexico
Argentina

Metro in developing countries

India
China
Mexico
Brazil

RFID – Hype Cycle

Visibility



Technology
Trigger

Peak of
Inflated
Expectations

Trough of
Disillusionment

Slope of
Enlightenment

Plateau of
Productivity

Maturity

Chitale Dairy Farm , Goa, India

Cattle Record keeping and tracking



Information of:

- *Milking record*
- *Feeding record*
- *Breeding data*

Benefits

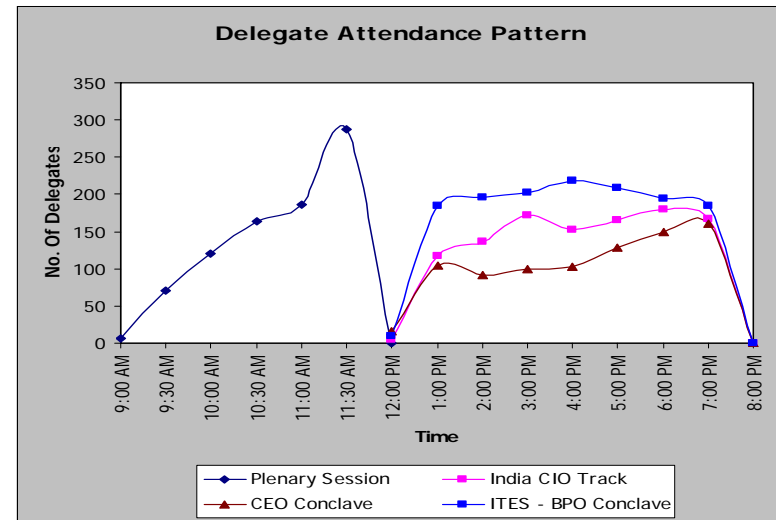
- *Real time information on productivity of each buffalo*
- *15 to 20% improvement in total milk yield*
- *Tracking of each buffalo*

Increasing Productivity and reducing costs

Delegate Tracking at 'NASSCOM: 2005: India Leadership Forum' **Privacy Intrusion?**



Delegate Tracking at NASSCOM 2005: India Leadership Forum in Mumbai, India
Photo Courtesy: Cognizant Technology Solutions



The Reporting Module consisted of

- **Hall wise attendance summary**
- **Real time attendee details of individual conference halls**

Benefits

- **Real time information on delegate participation**
- **RFID data enables analysis for planning future events**

Only 30% responded with privacy concerns

- The first cases to recognize a right to privacy, in India, involved police surveillance. In *Govind v. State of Madhya Pradesh*,[21](#) the court recognized such a right, and **cited American privacy cases from a variety of distinct areas**
- The right to privacy is implicit in the right to life and liberty guaranteed to the citizens of India by Article 21 of the Constitution.

Essence of privacy--the ability, explicitly or implicitly, to negotiate boundary conditions of social relations--is transcultural. What differs among cultures is the concrete form of privacy concern

- Irwin Altman

Country Comparison

Security Environment: Country Comparison

Laws	India	China	Philippines	Ireland	US	EU
IPR						
Copyright	✓	✓	✓	✓	✓	✓
Patent	Product Patents - 2005	X	X	X	✓	X
DATA PROTECTION						
Data Protection Laws	Comprehensive framework - 2004	X	X	✓	✓ *	✓
Vertical Specific Laws	X	X	X	✓	✓	✓
CYBER						
Digital Signatures	✓	✓	✓	✓	✓	✓
Hacking	✓	✓	✓	✓	✓	✓
Privacy	✓	✓ **	✓	✓	✓	✓

Source: Evaluateserve Analysis

* Though the US does not have comprehensive data protection laws, US companies with Safe Harbor certification are eligible to receive data from the EU.

** Though privacy laws exist in China, they are not comprehensive.

External forces driving the privacy policies in developing countries includes:

- Strict Data Protection and privacy laws in Europe and other developing countries – Conduct business internationally
- Offshore contracts – Developed countries raising concerns around the security of proprietary information in developing countries
- Political surveillance
- Censorship

- 1. India – Information Technology Act 2000 :** India's first cyber law makes punishable cyber crimes like hacking, damage to computer source code, publishing of information which is obscene in the electronic form, breach of confidentiality and privacy, and publication of digital signature certificate
- 2. Communications Convergence Bill 2000 :** The Bill lays down a detailed procedure to be followed by Government agencies desirous of intercepting messages or communication.

Rollout of comprehensive legislations that ensure privacy safeguards such as notice, choice and data access by consumers

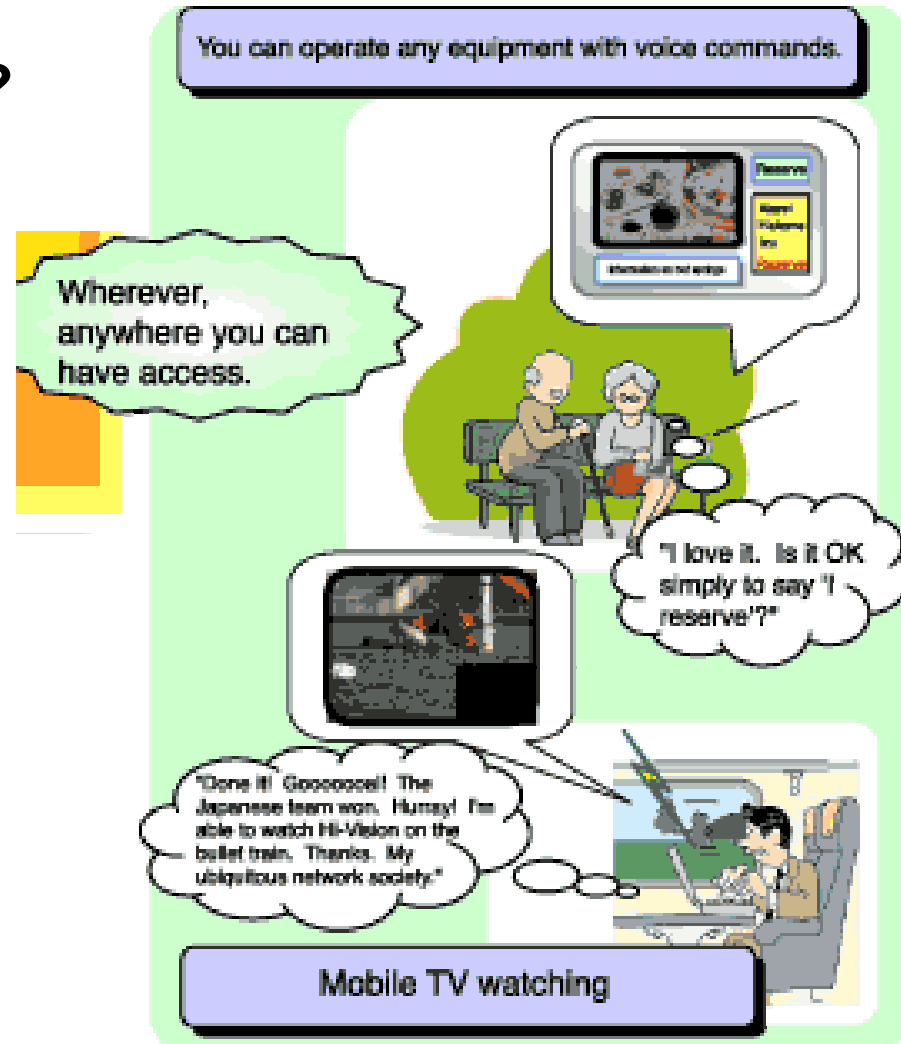
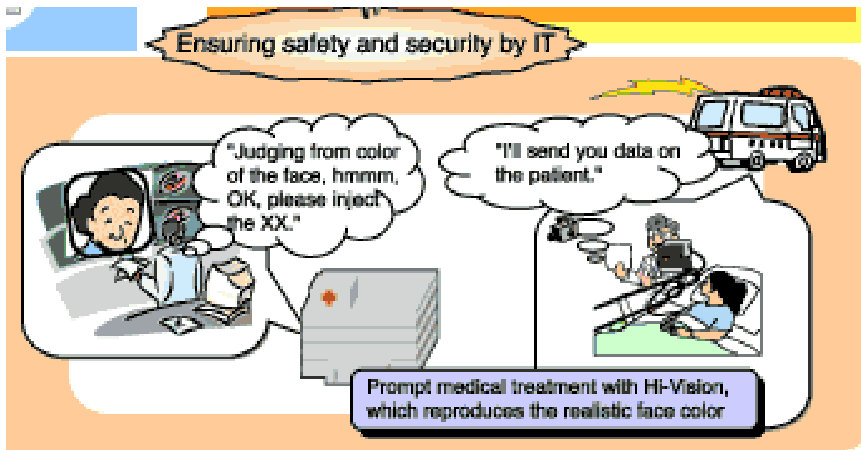
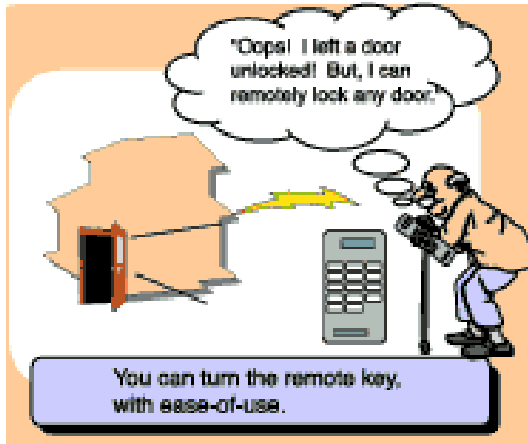
The legislations must satisfy principles falling into the following categories:

- a) Transparency and Access
- b) Consumer Consent and Choice
- c) Appropriate Use
- d) Safeguarding Information
- e) Redress
- f) Notify the affected parties

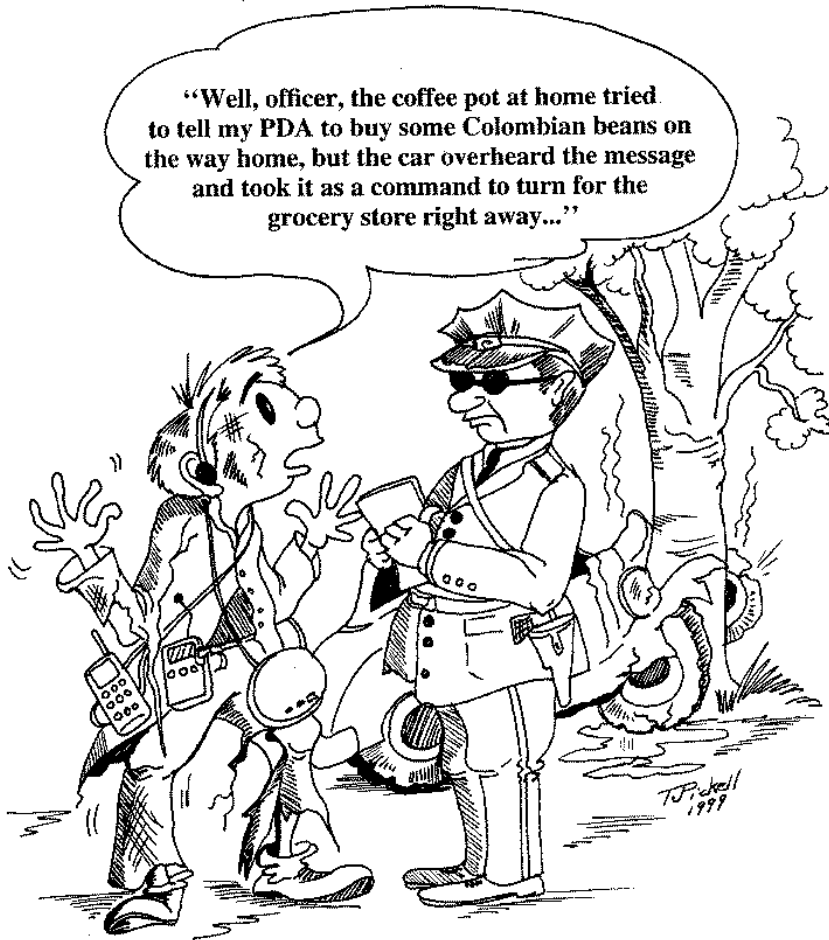
- Social-economic issues unique to their countries must be considered in their own right before developing a comprehensive framework for alleviating concern on privacy
- Special legislation for information privacy
- Effective legislations and policies need public support. Public education on ubiquitous technologies, its limitations and reach.
- Translate abstract privacy concerns into concrete definition of scope and limitations of use, control, exchange and dissemination practices followed by organizations
- Organizations must start earning customer's trust and confidence through better privacy practices on RFID and other ubiquitous technologies

Ubiquitous Societies – Conclusion

This ?



Or This ??



Source: DQ Channels

Thank You

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