


- Please note, a  complete powerpoint file with images is available from mgm@uow.edu.au or katina@uow.edu.au

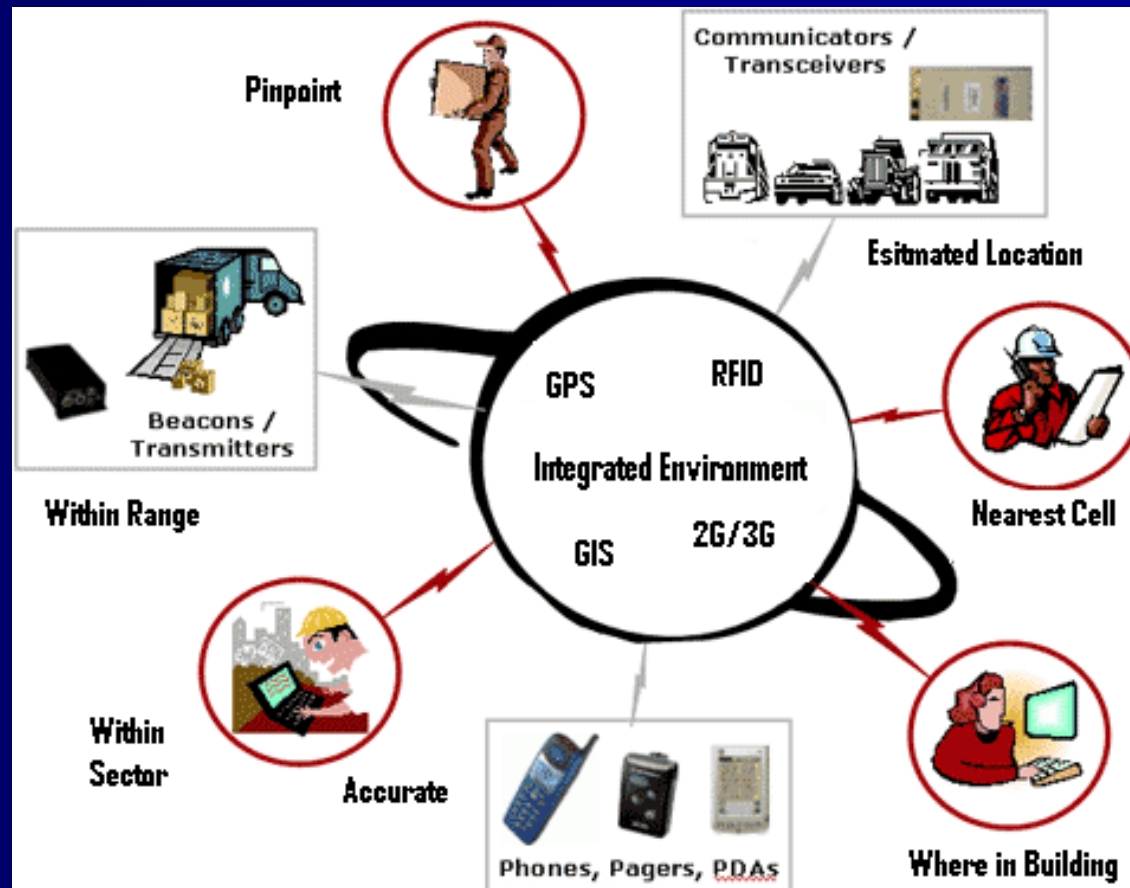


Überveillance: 24/7 x 365 People Tracking & Monitoring

LOCPRIV '08 • Sydney • Australia
University of New South Wales, Australia

Dr MG Michael · mgm@uow.edu.au
Honorary Fellow
IP Location Based Services Program
School of Information Systems and Technology
Faculty of Informatics, University of Wollongong

The Current 'Mobile' Environment



23 July 2008

You are where you've been:
Technological threats to your location privacy

Is Ubiquitous Tracking: Fact or Fiction?

- Ubiquitous tracking is here, **NOW**
 - E.g. Logistics providers tracking shipments
 - DHL-Asia claims 5 million daily parcel 'location fixes'
- Is **people tracking** ubiquitous?
 - Are you a criminal or terrorist suspect?
 - Law enforcement agencies can track anyone (warrant)
 - Are you a prison inmate or medical patient?
 - Minority groups are always early adopters (trialability)
- Balance needed between extreme viewpoints
 - Industry *is* promoting ubiquity to its customers
 - Civil libertarians are *not* always fully informed

Multimedia Clips

1. Kevin Warwick – Personalisation
2. IBM Commercial – Supply Chain
3. VeriChip – VeriMed Application

The Case for RFID: An Emerging Technology

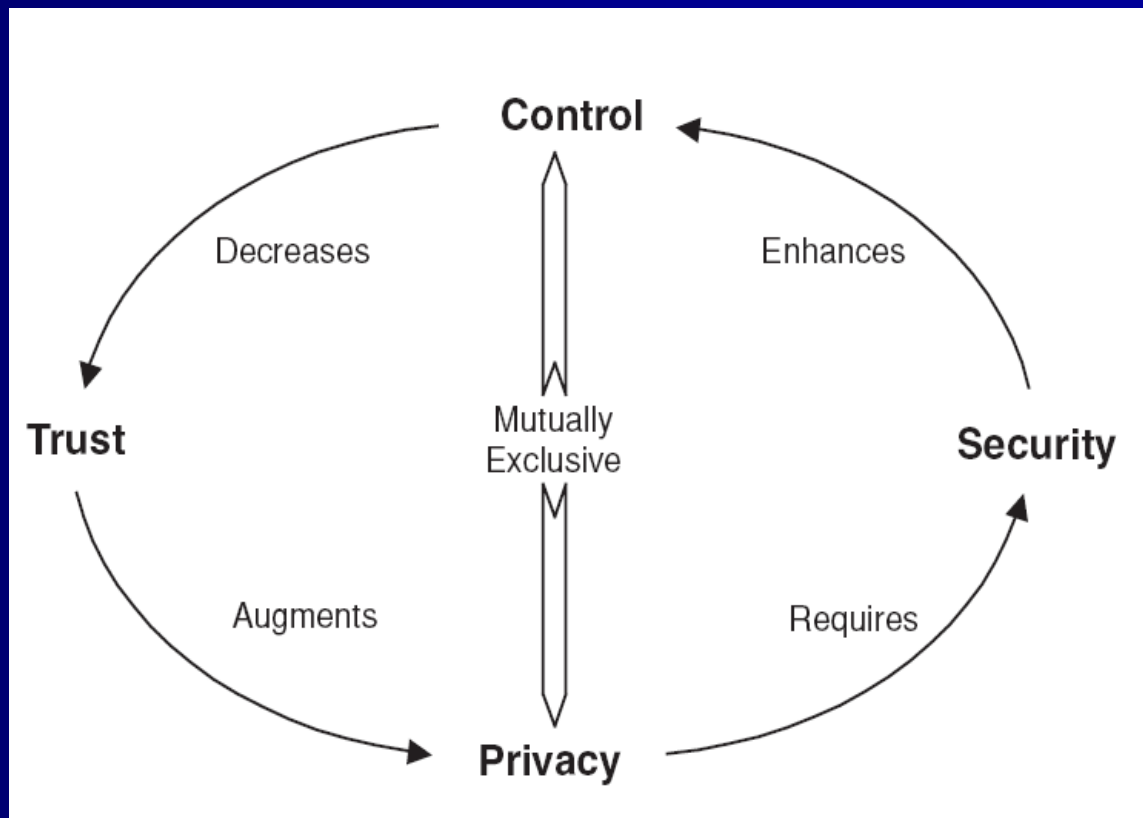
- **Consumer education** is important
 - In the case of RFID it *cannot* wait until after deployment
- Safeguards and support depend on **usability context**
 - One size does *not* fit all
 - E.g. tagging objects vs implanting people with transponders is different (even if voluntary subscription)
- The question **IS** whether RFID:
 - (A) Is a technology looking for a problem, pushed by vendors
 - (B) Is a valuable e-business investment for the future?
 - (C) Is another *interim* technology serving perceived needs?
 - (D) Is a vehicle for global object-to-subject surveillance?

The Rights of the Individual to Opt-Out of Being Tracked

- Is the individual “being tracked”:
 - a minor, mentally ill or disabled, a citizen or alien, husband or wife, a leaseholder of a vehicle, a life insurance policy member, a medical patient, an employee of a company, a criminal etc.
- Informed personal **consent** vs third party (power of attorney)?
- Need to respect individual **philosophies/beliefs** held by citizens
- Required **accessibility** to services through multiple mechanisms
 - E.g. there are people who do not own a mobile phone, do not wish to have Internet access for banking, and do not believe in credit facilities (it is their right to do so; their right to be *let alone*)
- An individual should be aware of **location frequency reporting**
 - Daily, hourly, per minute/second, based on custom requirements
- Polling “transactions” must be **transparent** to the subscriber

Location Tracking Dilemmas

- Accuracy
- Accessibility
- Privacy
- Property
- Control
- Security
- Trust
- Cost



Defining Überveillance

- Überveillance takes that which was static or discrete in the dataveillance world, and makes it **constant** and **embedded**.
- The ability to automatically **locate** AND **identify**.
- It has to do with the fundamental **who** (ID), **where** (location), **when** (time) questions in an attempt to derive **why** (motivation), **what** (result), and even **how** (method/plan/thought).
- Überveillance can be a **predictive** mechanism for one's expected behavior; or it can be based on historical fact, or something in between.

**Q: Is this a Good Depiction
of Überveillance?**

A: No, it is not.

**Q: Is this a Good Depiction
of Überveillance?**

A: Yes, it is.

Think of
überveillance
as *Big Brother*,
on the inside
looking out.

23 July 2008

You are where you've been:
Technological threats to your location privacy

12

23 July 2008

You are where you've been:
Technological threats to your location privacy

13

23 July 2008

You are where you've been:
Technological threats to your location privacy

14

And what is Retail Überveillance Theory (RET)?

- "But Mr. Roberti, *RFID Journal* editor and conference convenor, dismisses the fear.
- More invasive technologies, such as GSM cell-phones or toll road transponders, perturb very few because the benefits outweigh the negatives, he says.
- He is also skeptical of the retail uberveillance theory. "What are the chances that competitive companies are going to share their customers' information?"

What are the Inherent Problems of Überveillance?

- **Location intelligence** can reveal a great deal about one's relationships, traits, likes and dislikes, mobility behaviour etc.
- Problem of any location service is the potential for:
 - **Misinformation**
 - **Misinterpretation**
 - **Information Manipulation**
- The inherent problem with überveillance is that facts do not always add up to truth (ie as in the case of an exclusive disjunction $T+T=F$), and predictions based on intelligence are not always correct.
- Location services can enhance national and personal security
 - But how much privacy are we willing to trade to increase security?
- **Überveillance** is here now- the *above* and *beyond* almost omnipresent 24/7 x 365 surveillance
- We must consider the **trajectory** of location services
 - Hierarchical positioning systems (converging services)
 - IP-based location services (location-aware devices)
 - The rise of the Electrophorus (the 'human' as a wireless node)

Practical Approaches to Gauging Social Impact and our Future Research Directions

- **Before** widespread diffusion of an innovation
 - **Discourse and debate**
 - Citizen and public/private sector involvement
 - **Scenario-based planning**
 - Historical method; learning from the lessons of the past
 - Best case/worse case and deconstruction/interpretation
 - Technology assessment & forecasting
 - Ask a universal panel of experts with diverse backgrounds
- **After** widespread diffusion of an innovation
 - **Case law-based analysis**
 - Technical standards, guidelines, protocol review
 - **Evidence-based practice can fine-tune regulation/policy**

Backup Slide

23 July 2008

You are where you've been:
Technological threats to your location privacy

18

Stakeholder Relationships and Related Issues

