Privacy Concerns Associated with GeoInformation

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- Educate businesses and governments on current legal and policy environment with regards to location and other types of spatial data.

- Advocate development of consistent and transparent policy and legal frameworks for collection, use and distribution of spatial data.

- Identify solutions to legal and policy issues that limit the sharing of spatial data for critical transnational issues.
  - Climate change
  - Disaster response
  - Tracking spread of infectious disease
Perceptions of Privacy are Changing

- St Peter's Square – 2005

![Image of St Peter's Square in 2005](Luca Bruno/AP)

Creating a Location Privacy Paradox

- St Peter’s Square 2013

![Image of St Peter's Square in 2013](Michael Sohn/AP)
New Disruptive Platforms

Innovative Uses for Geospatial Technology

"I'm tracking my husband through his GPS unit. Right now, he's between a televised sporting event and the refrigerator."
Using Geoinformation In New Ways

New Uses for Sensors

- All sensors reporting position
- All connected to the Web
- All with metadata registered

- All readable remotely
- Some controllable remotely
New Applications Using Geoinformation

Intelligent Transportation Systems

New Platforms Using Geoinformation
Challenges: Unique Aspects of Geoinformation

- Much more difficult to define
  - Compared to other protected information – social security number, health records, credit information
- Temporal component
  - Present vs. historical?
- Cultural, gender, age, religious, social components
- Location information is collected in many more ways
  - Privacy challenges are much more varied.
  - We regularly provide our location to others.

Challenge: Fair Information Practice Principles (FIPPs)

- Privacy laws and regulations around the world are based upon FIPPs
- Elements of FIPPs include:
  - “identified” and “identifiable”
  - Notice and transparency
  - Consent and use limitation
  - Access and participation
  - Integrity and Security
  - Enforcement and Accountability
- Applying FIPPS to geoinformation is hard
Challenges: Geospatial Ecosystem

- Government, industry and citizens are both providers and users of geoinformation.
- They all collect, use and share geoinformation, often simultaneously.
- Government relies upon private sector and increasingly the crowd to provide critical geoinformation.
- Laws, policies, etc. that impact one segment will have a ripple effect throughout the entire geospatial ecosystem.

Evolving Legal and Regulatory Framework

- E.U. General Data Protection Regulation (GPDR) will protect location data.
- U.S. Federal Trade Commission initiates enforcement actions against companies collecting geolocation information without consent.
- Laws and regulations around the globe restricting collection of data from unmanned aircraft systems (drones).
- Legislation in Australia that would criminalize re-identifying an individual from de-identified data sets.
- Government agencies publishing industry-specific laws/guidelines regarding data protection.
- Law enforcements use of “stingray” technology and mobile phone tracking being challenged in courts and media.
Impact: Government Privacy Policies

- Government privacy policies are outdated
- Recent U.S. report found
  - Technologies of today do not fit into the definitions coined in 1974
  - “Current government privacy laws do not provide sufficient limits on how location information can be used” once it is collected by a government agency.
  - “OMB should issue privacy guidelines on agency use of location information”

Impact: Development of Mosaic Theory

- Supreme Court was asked to decide whether law enforcement was required before using a tracking device to monitor movements in public space
- Court found that the act of placing a device on auto was a violation
  - Trespass theory
- Majority of justices appear to believe that tracking individual’s movements in public over time can violate privacy
  - Mosaic theory
Impact: Law Enforcement

- Growing number of businesses are collecting location information.
- Law enforcement increasingly recognizing value of geospatial technology and geoinformation.
- Greater scrutiny (media + civil liberty organisations)
  - GeoFeedia
- Key questions:
  - What protections should there be in citizens location?
  - What obligations should businesses have to turn over geoinformation to government agencies?

Impact: Open Data Initiatives

- Growing push for government agencies to make data available to public.
- Many of these data sets are spatial–enabled.
- Concerns:
  - Adequate procedures to de–identify?
    - Power of location
  - At what point does aggregation of spatially–enabled government data encroach upon privacy interests of citizens?
  - Is geospatial community being consulted?
Conclusions

- We are struggling to understand location privacy.
  - Advancement in technology are changing expectations.
- Need to identify and weigh the true privacy risks.
  - Policy often involves trade-offs between public benefit and perceived risks.
- Location information doesn’t easily fit into existing privacy protection constructs.
- Excessive regulation, conflicting and/or confusing legal and policy regimes will have a significant impact on ability of entire geospatial ecosystem to collect, use and distribute geospatial.
- Geospatial community needs to play active role.

Questions

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