



# College of Information Studies

University of Maryland Hornbake Library Building College Park, MD 20742-4345

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## Privacy

Session 25

INST 301

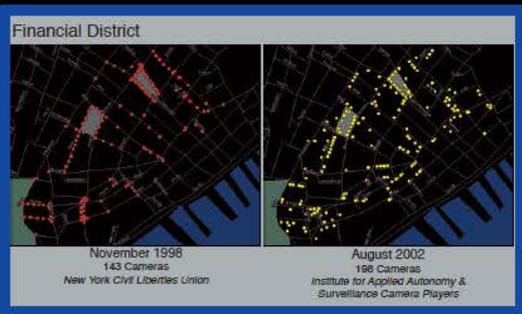
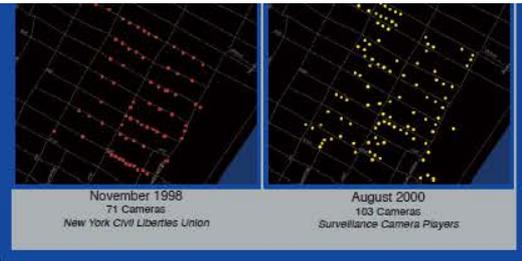
Introduction to Information Science



*"On the Internet, nobody knows you're a dog."*

# Privacy vs. Anonymity





Map of Manhattan Surveillance Cameras  
 2012  
 GP-Y 201  
 Paper, paint, artificial fax, photos  
 Sumant Jayakrishnan

Navigation icons: save, print, up/down arrows, 1 / 1, zoom in/out, and a search icon.

# Ideals in Tension

*Whenever a conflict arises between privacy and accountability, people demand the former for themselves and the latter for everybody else.*

[The Transparent Society](#) by David Brin

# Privacy Protection (USA)

- Government: Privacy Act of 1974
  - Applies only to government records
- Commercial: Privacy policies
  - Federal Trade Commission enforcement
- Employers: Ownership
  - Employers own content on services they provide

# Obscurity

- A lot of information is public record
- Previously shielded by “practical obscurity”
  - Records were hard to access
- Digital access changes that
  - Physical access
  - Search and data mining

# Tracking Before the Web

- Governments have information about life events
  - Birth and death
  - Marriage and divorce
  - Licenses (e.g., drivers)
  - Property and taxes
- Business exchange information about transactions
  - How you commute to work
  - What cereal you eat
  - Where you like to go for vacation
  - What hobbies you have



# Your Comprehensive Background Report is Ready...



**Jimmy Jr-P Lin**

We found **Jimmy Jr-P Lin** and have prepared a report for you to review.

We have successfully searched our databases and identified data in one or more of the following areas:

Q **Addresses**

Q **Family Members**

Q **Date of Birth**

Q **Misdemeanors**

Q **Phone Numbers**

Q **Drug Charges**

Q **Concealed Weapon**

Q **Assault Records**

Q **Location History**

Q **Court Records**

Q **Sex Offender Check**

Q **Criminal Check**

[Continue to Report >](#)

# Online Tracking

- Web tracking
  - Browser data, clickthrough, cookies, ...
- Packet sniffers
  - Detect passwords, reconstruct packets, ...
- Law enforcement
  - Carnivore (US), RIP (UK), ...
- National security
  - FISA (US), SORM (Russia), ...

# Centralized Surveillance

- Proxy server
  - Set up a Web server and enable proxy function
  - Configure all browsers to use the proxy server
  - Store and analyze Web server log files
- Firewall
  - Can monitor all applications, not just the Web

# Distributed Tracking Ecosystem

When you visit a website ...

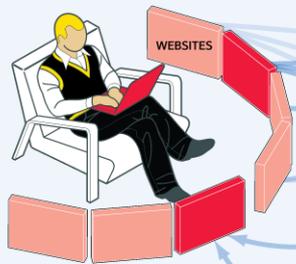
... tiny tracking files watch what you do online ...

... and develop a profile of your behavior.

Some sell your data on an exchange ...

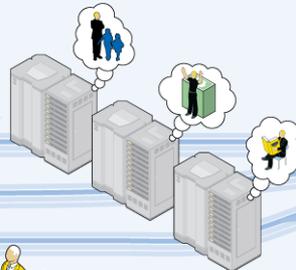
... which can combine it with other sources of personal data ...

... to be sold to advertisers looking for consumers like you.



PARENTING INTERESTS  
SHOPPING ONLINE  
BROWSING BOOKS

TRACKING COMPANIES



DATA EXCHANGE



OFFLINE DATA  
Census figures, real estate records, car registration, etc.

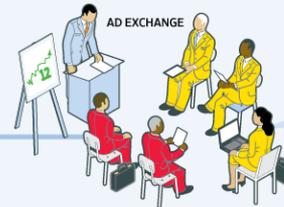
You might like this book!

You might like this car!

ADVERTISER

Often, a tracking company sells this information directly to advertisers.

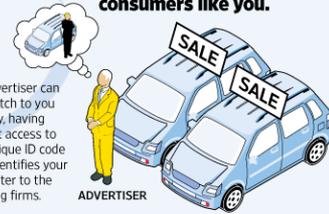
Advertisers buy ad space from websites at auctions.



AD EXCHANGE

An advertiser can now pitch to you directly, having bought access to the unique ID code that identifies your computer to the tracking firms.

ADVERTISER



BACK TO YOU

The websites you visit show you ads or other content based on the description of you in the dossiers they've built and analyzed.