

# Privacy

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- **“The common law secures to each individual the right of determining, ordinarily, to what extent his thoughts, sentiments, and emotions shall be communicated by others. . . . The existence of this right does not depend upon the particular method of expression adopted.”**
  - Justices Warren & Brandeis, 1890



# What is Privacy?

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- **Privacy: subject of information controls information**
- **Anonymity: information has no subject**
- **Security: owner of the information controls information**
- **Anonymity ensures privacy**
- **Privacy requires security but security does not ensure privacy**



# Browsing Information

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- **Policies, practices and physical configuration of the users ISP**
- **System configuration**
- **Other services provided by the Internet service provider**
  - **technical services: fingerID, .plan generation**
  - **business services: aggregate profiles of customers**
- **Software used for Internet access**



# IP Address

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- **User's ISP**
- **Identity if ISP has a unique name for each user's machine**
  - **example: @tygar.trust.cmu.edu**
  - **counterexample: @att.com**



# Browser Information

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- **Browser type & version**
- **Machine & OS**
- **Helper functions**
- **Possibly**
  - email address
  - previously visited pages



# What Are You Doing on the Web?

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- **Obtaining Free Information**
- **Purchasing Information**
- **Electronic Communication**
- **Making Friends & Contacts**
- **Reading**



# Obtaining Free Information

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- **The right to read anonymously**
- **Highest level of protection -- free access to information is a fundamental democratic right**
- **Lamont v Postmaster General**  
**“any addressee is likely to feel some inhibition in sending for literature which Federal officials have condemned.”**

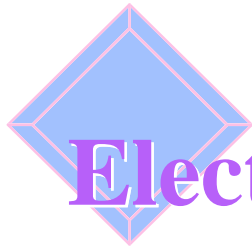


# Purchasing Information

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- **Right to Financial Privacy Act limits government access of financial information**
- **By United States v Miller, 1976, a financial transaction is inherently a public act**
- **Provider of financial services owns the records**





# Electronic Communication

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## ■ ECPA

- protects from observers but not participants
- placing cookies to observe later transactions may not be acceptable without consent -- this has not been tested



# Making Friends & Contacts

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- **Associating and assembling. Free to do so without surveillance**
- **NAACP v Alabama**
  - **First Amendment right to associate, but also the right to “pursue private interest privately,” as one might in one’s own home.**



# Aggregate Information

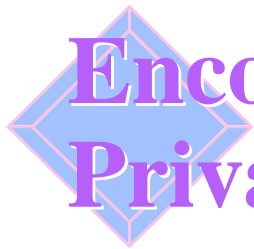
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## ■ Policy

- users can cooperate with explicit pseudonyms
- cookies can be used to track actions at a particular site, and coordinate site to site visit information
- with pseudonyms

## ■ Technology

- <http://www.anonymizer.com/>



# Encouraging Use of Technology & Privacy-Protecting Technology

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## ■ Use it yourself

- <http://www.anonymized.com/>
- PGP

## ■ Act in professional societies

- IEEE USAB

Deborah Rudolph

[d.rudolph@ieee.org](mailto:d.rudolph@ieee.org)

202-785-0017

## ■ Support legislation

- Consumer Internet Privacy Act of 1997, HR98
- [http://www.epic.org/privacy/internet/hr\\_98.html](http://www.epic.org/privacy/internet/hr_98.html)

## ■ Join civil liberties organizations

- EPIC
- CPSR