

Computer and Network Privacy and Security: Ethical, Legal, and Technical Considerations: Syllabus

History will record what we, here in the early decades of the information age, did to foster freedom, liberty, and democracy. Did we build information technologies that protected people's freedoms even during times when society tried to subvert them? Or did we build technologies that could easily be modified to watch and control?

Bruce Schneier, *Risks of Data Reuse*, CRYPTO-GRAM, July 15, 2007, <http://www.schneier.com/crypto-gram-0707.html>.

Protecting privacy and ensuring security requires "watch and control" technology. How much should we build and how should we use it? We should answer this question in a way fully informed by our fundamental values. Unfortunately, this is not happening. The economic concerns of businesses—not our values—are driving a rapid and extensive development of "watch and control" technology.

Unless otherwise indicated, all readings are available on the course websites. For the Chicago-Kent website go to www.kentlaw.edu/classes, click on "Richard Warner," click on "Privacy and Security."

Assignments: (1) Setting up PGP encryption; (2) short comment on user and privacy policies; (3) final paper.

I. INTRODUCTION TO AMERICAN LAW (for non-law students)

Tutorials (go to www.kentlaw.edu/classes, click on "Richard Warner," click on "Introduction to American law.")

Aalberts et al., Trespass, Nuisance, and Spam: 11th Century Common Law Meets the Internet

Warner, *Adjudication* (recommended)

II. WHY PRIVACY MATTERS

A. Privacy Values and Interests

Asimov, *The Dead Past* (Xerox)

Kang, *Information Privacy in Cyberspace Transaction* (selections)

1. Privacy values: Spatial, decisional, informational
 - a. Relations among these interests

Warner, *Surveillance and the Self* (selections)

Warner, *Why Privacy Matters* (selections)

2. The Common Knowledge Background
3. Privacy and the Self

B. Information and Market Efficiency

Charles E. Lindblom, *THE MARKET SYSTEM: WHAT IT IS, HOW IT WORKS, AND WHAT TO MAKE OF IT* (*recommended only*--book available on Amazon).

1. Targeted Advertising

Don Peppers & Martha Rogers, *THE ONE TO ONE FUTURE: BUILDING RELATIONSHIPS ONE CUSTOMER AT A TIME* 138 (1st Currency paperback ed. 1996) (*recommended only*--book available).

2. Price Discrimination

Varian, *Price Discrimination*

C. Privacy Norms

Daniel Solove, *A Taxonomy of Privacy*

Ann Bartow, *A Feeling of Unease about Privacy Law*

Warner, *Norms*

1. The common law privacy torts

Dwyer v. American Express

Topheavy Studios, Inc. v. Jane Doe (recommended)

Remsberg v. Docusearch, Inc. (recommended)

Michaels v. Internet Entertainment Group, Inc., et al (recommended)

III. PRIMER ON THE INTERNET

Warner, *Introduction*

Solomon and Chapple, *INFORMATION SECURITY ILLUMINATED*, Chapter 6.1

A. Structure of the Internet

B. Intelligent Versus Dumb Networks

C. The End-To-End Principle

D. Openness and Its Costs

1. Non-Proprietary Protocols
2. No Gatekeeper
3. Implied-permission access

IV. PRIVACY: WHAT TECHNOLOGY HAS CHANGED

A. Increased Powers of Surveillance, Aggregation, and Analysis

Odlyzko, *Privacy and the Clandestine Development of E-Commerce*

Odlyzko, *Privacy, Economics, and Price Discrimination on the Internet*

Levinson and Odlyzko, *Too Expensive to Meter*

Privacy International, *A Race to the Bottom: Privacy Ranking of Internet Service Companies*

Privacy International, *2007 Privacy Rankings*

Warner, *Surveillance and the Self* (selections)

Warner, *Why Privacy Matters* (selections)

B. Prospects for Privacy Norms

V. GENERAL INTRODUCTION TO INFORMATION SECURITY

Anderson, *SECURITY ENGINEERING*, Chapters 1, 22.1–22.2, and 22.5 (Chapters may be downloaded from <http://www.cl.cam.ac.uk/~rja14/book.html> or hard copy book can be purchased)

Solomon and Chapple, *INFORMATION SECURITY ILLUMINATED*, Chapters 1, 2.1, 3, 7.9 (hard copy)

A. Foundations of Information Security

1. Security goals: the confidentiality, integrity, availability triad
2. Security standards and policies
3. Security mindset
4. Defense in depth
5. Brief overview of threats
6. Security versus usability, time, and/or money tradeoffs

A. Very Brief Overview of Risk Assessment

VI. THE ECONOMICS OF INFORMATION SECURITY

A. Information Security as a Negative Externality

Anderson, *The Economics of Information Security*

B. The Lemons Market in Security Products

Bruce Schneier, *A Security Market for Lemons*,
<http://www.schneier.com/crypto-gram-0705.html>

C. Prevention or Response?

1. Prevention technologies
2. Response and remediation

D. Market Solutions

1. Information markets

Sunstein, INFOTOPIA: HOW MANY MINDS PRODUCE KNOWLEDGE (selections)

A. Insurance

Kalinich, *Network Risk Insurance: A Layman's Overview*

AIG on network risk insurance,
<http://www.aigexecutiveliability.com/executiveliability/productdetail/0,2128,448-13-2995,00.html>

E. Legal Solutions

- A. The need for norms

VII. SOFTWARE

A. Why Software Vulnerabilities Are Inevitable

Anderson, Chapter 22.3.

1. Technological reasons
2. Economic reasons

B. The Problem of A Single Dominant Operating System

C. A Role for Open Source Software

D. Legal Responses

1. Industry standards

In re America Online Inc. Version 5.0 Software Litigation

Kaczmarek v. Microsoft Corp. (recommended)

In re Sony BMG DD Technologies Litigation (recommended)

2. The large grey area

E. Market responses

Sunstein, INFOTOPIA: HOW MANY MINDS PRODUCE KNOWLEDGE (selections)

iDefense <http://labs.iddefense.com>.

F. End User License Agreements

Lemley, *Terms of Use*

ProCd v. Zeidenberg

Klocek v. Gateway

VIII. INFORMATION SECURITY TECHNOLOGY

A. Technology

1. Protocols

Anderson, Chapter 2, omitting 2.7

2. Authentication and Passwords

Solomon and Chapple, Sections 2.6, 2.8, and 10.6
Anderson, Chapter 3

3. Cryptography and Digital Systems

Solomon and Chapple, Chapter 5
Anderson, Chapter 5.1–5.3

4. Access Control

Solomon and Chapple, Chapter 10.5–10.6
Anderson, Chapter 4, skipping 4.3

B. Legal responses

1. Negligence liability

Guin v. Bazos
Forbes v. Wells Fargo Bank
Banknorth v. BJ's Wholesale Club
Sovereign Bank v. BJ's Wholesale Club

2. Disclosure statutes

California Civil Code Section 1798.82
Federal Trade Commission –Identity Theft Survey Report

XI. MALWARE, SPYWARE, ADWARE

A. Viruses, Worms, and Trojans

1. Legal responses

United States v. Morris
Entry of Verizon-Maine into the InterLATA Telephone Market

2. Market responses

B. Spyware and Adware

1. Legal responses

Tom Hughes, *How Well Do You Know Your Internet Marketing Partners?*
In the Matter of Direct Revenue

2. Market Responses

X. DENIAL OF SERVICE AND NETWORK ATTACKS

A. Network Infrastructure including security

Solomon and Chapple, Chapter 6.2–6.5
Anderson, Chapter 6.2

B. Botnets

C. Network Attacks, Technological Defense Measures

Solomon and Chapple, Chapters 7.8–7.1., 11.1–11.3, and 12
Anderson, Chapter 18

1. Spyware programs
2. Firewalls
Solomon and Chapple, Chapter 8
3. Network intrusion detection
Solomon and Chapple, Chapter 13

C. Market Responses

D. Legal Responses

XI. E-MAIL (if time allows)

A. What Is Spam?

CAN SPAM Act

B. Who Should Attempt to Regulate Spam?

Media3 Technologies, LLC v. Mail Abuse Prevention System
Hall v. Earthlink Network, Inc.