



PRIVACY

# THE ERA OF DIGITALIZATION OF BUSINESS AND SOCIETY

# LEARNING OBJECTIVES

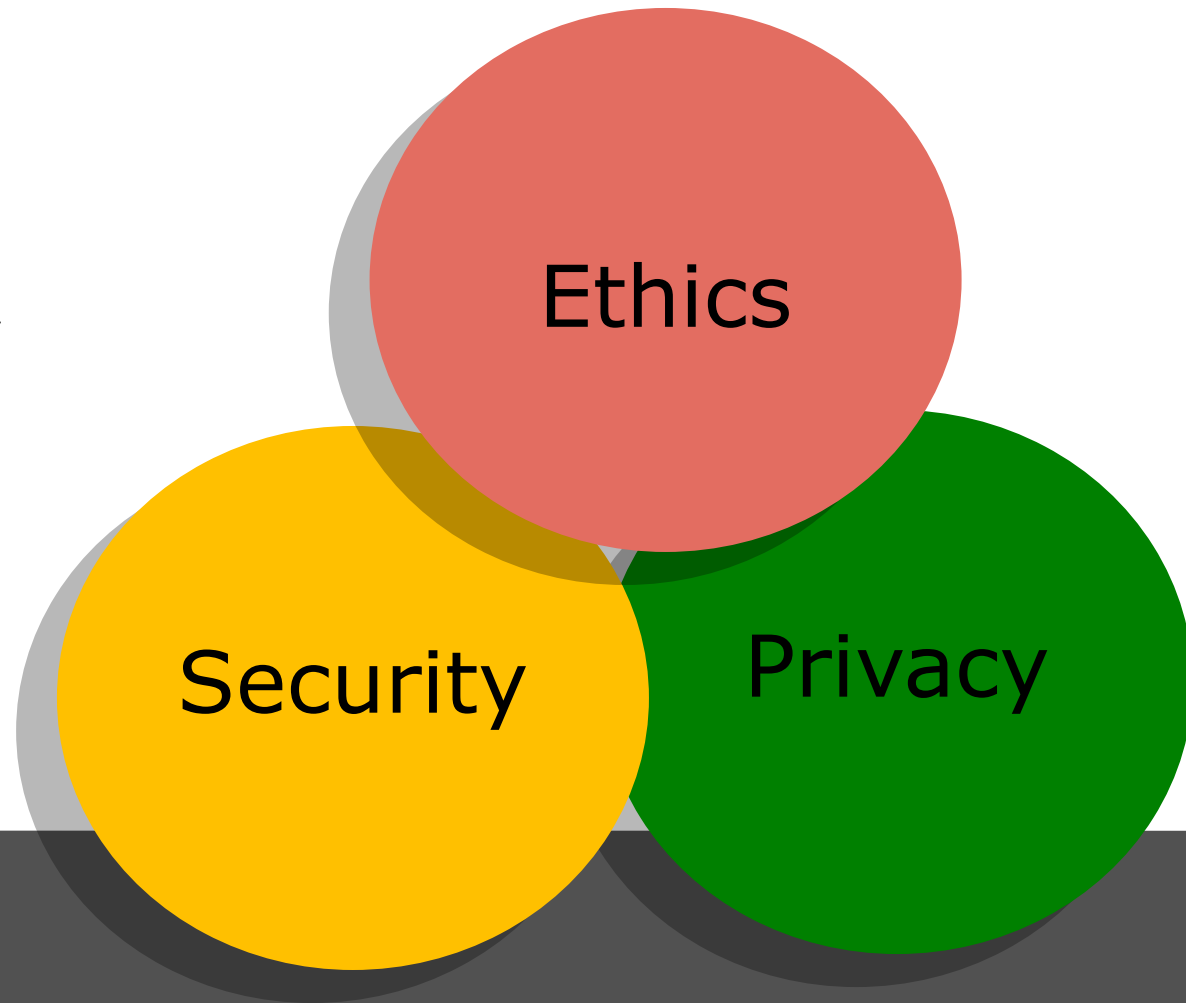
- ★ Appreciate the overall impact on privacy of ever-changing technology advances
- ★ Understand ways in which privacy can be protected.
- ➡ Understand responsibility of company to protect customer privacy

# INTERDEPENDENCY

**Ethics**

**Privacy**

**Security**



# AGENDA

## **Privacy**

**What is it?**

**Why is it an issue (wrt IT)?**

**How does one protect privacy?**

# WHAT IS PRIVACY?

**Privacy -- The right to be left alone**

**Information privacy - the protection of data about individuals**



# ISSUES



**Can data collected for one reason be used for another?**

**Who owns the data collected about an individual?**

**What is identity theft?**

**How does it happen?**

**How can we protect against it?**

**Others?**

**Moving towards: greater transparency, easier opt out?**

**Do we know if / how we are?**

**What are our challenges? Dependency on technology?**

What's Data  
Privacy Law In  
Your Country?



# TOWARD DEFINING PRIVACY EXPECTATIONS IN AN AGE OF (OVER)SHARING



## **GDPR – General Data Protection Regulation**

Directive on protection of individuals with regard to the processing of personal data and free movement of that data.

Adopted: 2016; Enforceable: 2018

## **US California's Consumer Privacy Act (CPA) 2018**



**Issues: Data collection, data sharing (3<sup>rd</sup> parties), data breaches**



<https://www.economist.com/open-future/2018/08/16/toward-defining-privacy-expectations-in-an-age-of-oversharing>

# GENERAL DATA PROTECTION REGULATION

The European Union's "General Data Protection Regulation 2016/679," that came into effect in May 2018, while **falling short of a full endorsement of the "Right to explanation,"** requires companies that employ "automated decision-making" to provide their customers with "meaningful information about the logic involved" (Article 13.2(f)). This may be quite problematic when the decisions are **powered by black box models.**





# Privacy: Court Decisions (US)

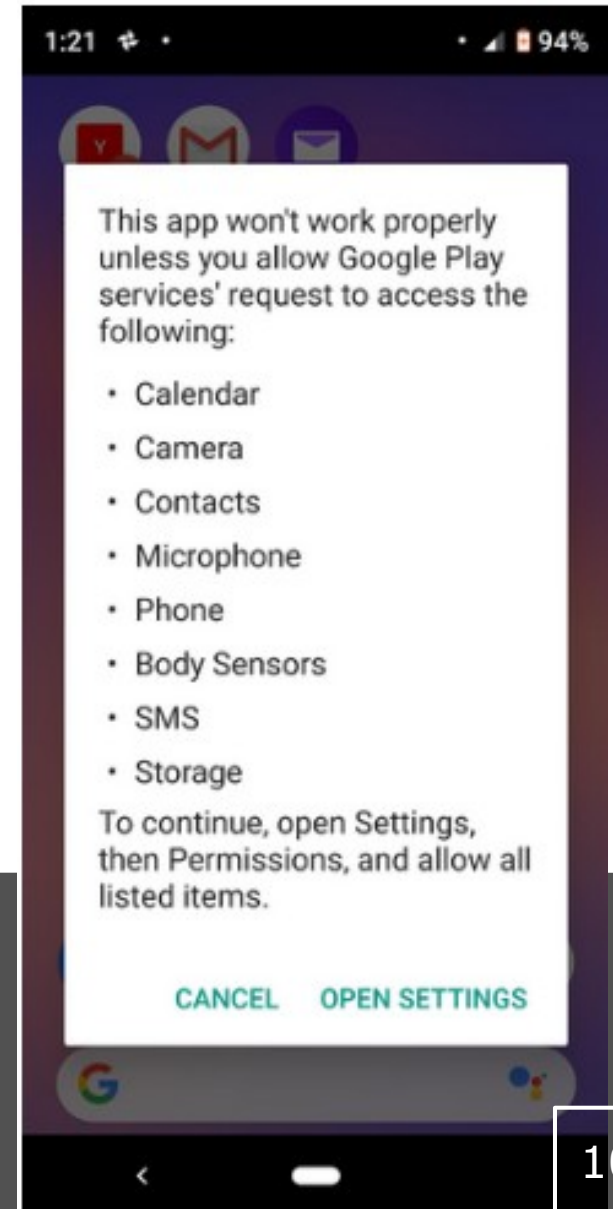
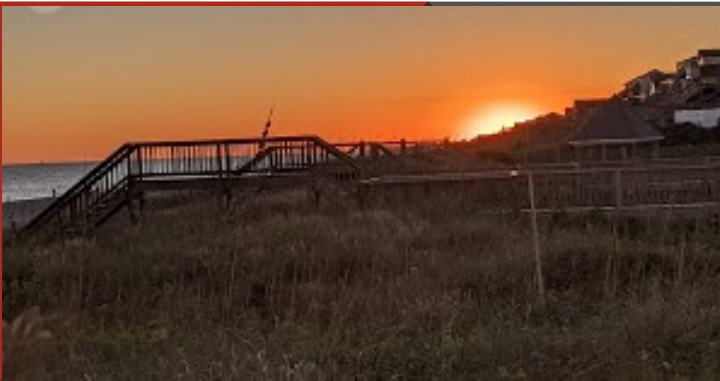
1. The right of privacy is not absolute.

Privacy must be balanced against the needs of society.

2. The public's right to know supersedes the individual's right of privacy.

**Tech firms – impact on advertisement and communication**

# BEYOND THE “TIPPING POINT”



# PRIVACY PARADOX

## **“Extreme” Customers:**

- ★ Personalized experience
- ★ Multi-channel availability

## **“Extreme” Businesses:**

- ★ Target / personalize
  - ★ drive sales
  - ★ build deep, more valuable relationships
- ★ Rich data profiles

## **Challenge:**

- ★ Data collection often raises privacy concerns
- ★ Recall: Customer Relationship Management

# TRACKING . . .

Form	Technology	Data Collected	Benefit	Use
Digital Device	Cookies & Spyware	Software Usage/Sites Visited	Diagnose Problems Personalizes Content / Offers	Know Software Uses & Viewing Habits
Wireless	GPS	Location	Emergency	Tracks Movements
Retail Ref: Forrester Research	Biometrics	Images of Visitors & Habits	Identify Shoplifters Facial recognition	Identify Better Customers Airport check-ins

Android apps – collect GPS coordinates every 3 minutes  
 Weather Channel – every 10 minutes  
 Ref. WSJ

# 7 in 10 Smartphone Apps Share Your Data with Third-Party Services

The majority of apps running on Android and iOS smartphones report personal data to third-party tracking companies like Google, Facebook or Crashlytics



“We found that more than 70 percent of the apps we studied

connected to at least one tracker, and 15 percent of them connected to five or more trackers. One in every four trackers harvested at least one unique device identifier, such as the phone number or its

device-specific unique 15-digit IMEI number

. Unique identifiers are crucial for online tracking services because they can connect different types of personal data provided by different apps to a single person or device. Most users, are unaware of those hidden practices.”

<https://www.scientificamerican.com/article/7-in-10-smartphone-apps-share-your-data-with-third-party-services/>

# CAN WE “TRACK THE TRACKERS”

Users need to know what information (**data**) about them is being collected, by whom, and what it's being used for.

Only then can we as a society decide what privacy protections are appropriate, and put them in place

<https://www.makeuseof.com/tag/check-who-tracking-you-online/>

# PRIVACY -- User's perception of transfer of personal data

		Explicit	Implicit		
Required	Voluntary	"I <b>had to</b> transfer this data and <u>I knew</u> I gave up the data."	"I <b>had to</b> transfer data but <u>I did not know</u> I gave up the data."	Required	Voluntary
		"I transferred this data <b>voluntarily</b> and <u>I knew</u> I gave up the data."	"I transferred data <b>voluntarily</b> but <u>I did not know</u> I gave up the data."		
		Explicit	Implicit		

What do you learn in  
business school?  
Examples?




# DATA BREACH (PRIVACYRIGHTS.ORG)



On September 7, Equifax, one of the three national credit reporting agencies (credit bureaus), reported a data breach that may have compromised the personal information of 143 million individuals. That's almost half the population of the U.S. The compromised data is said to include Social Security numbers, birth dates, addresses and driver's license numbers. In some cases, the compromised data may also include credit card numbers. The number of people impacted and the sensitivity of the breached information may make this the most significant data breach ever.



A person is seen from behind, sitting at a desk and working on a laptop. A fluffy orange cat is perched on the desk next to the laptop.

**Exercising Your California  
Consumer Privacy Act Rights**

A close-up shot of a hand typing on a dark-colored laptop keyboard.

**California Consumer Privacy  
Act Basics**

A server room with rows of server racks. The racks are illuminated with a warm orange glow, and some have digital displays showing data.

**11,613,448,444**

**Records  
Breached Since  
2005**

## **We are Privacy Rights Clearinghouse**

As an organization driven by the belief that everyone deserves the opportunity to be informed and be heard, we have been protecting privacy for all by empowering individuals and advocating for positive change since 1992. [Learn More >](#)

**<https://www.privacyrights.org/data-breaches>**

# PRIVACY – WHAT IS IT? VERSUS SECURITY

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**Implement security to ensure privacy**

**Security is a process ... privacy is a consequence**

**Security is action ... privacy is a result of  
successful action**

**Security is the strategy ... privacy is the outcome**



# PATHS FOR PROTECTING PRIVACY

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Personal

Policy or Legal

Technical



# PERSONAL: SAFEGUARDS

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Mobility increases risk of:

- Data leakage
- Loss of device
- Device being compromised



# PERSONAL: SAFEGUARDS

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**Limit what you post**

**Limit connections**

**Apply security and privacy settings**

**Be cautious when connecting to wifi**

**Use virtual private network**

# TECHNICAL: TOOLS AND APPS

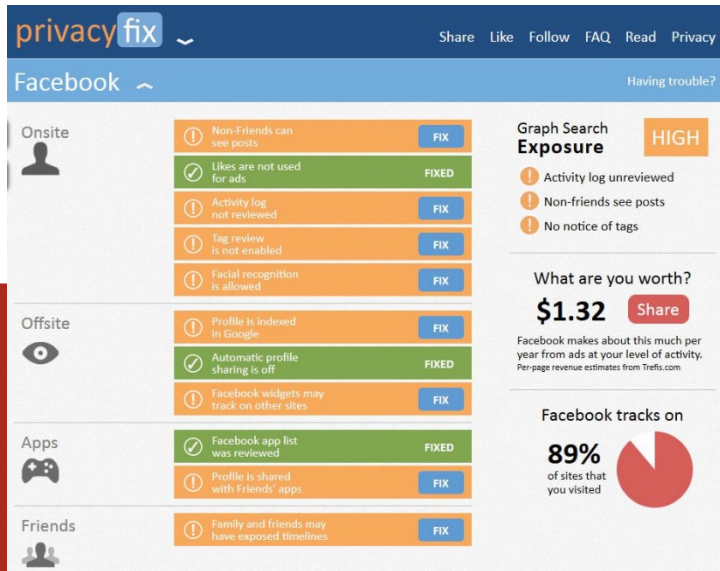
## PrivacyFix

Home > Windows > Browsers > Add-ons & Tools > Privacyfix

 **Privacyfix** (for Chrome) 2.2.7

### Control who's tracking you on the web

Privacyfix is an add-on for Google's [Chrome](#) browser that lets you see and control what information of yours is being tracked on the web. [View full description](#)



privacy fix

Share Like Follow FAQ Read Privacy

Facebook Having trouble?

**Onsite**

- Non-Friends can see posts **FIX**
- Likes are not used for ads **FIXED**
- Activity log not reviewed **FIX**
- Tag review is not enabled **FIX**
- Facial recognition is allowed **FIX**

**Offsite**

- Profile is indexed in Google **FIX**
- Automatic profile sharing is off **FIXED**
- Facebook widgets may track on other sites **FIX**

**Apps**

- Facebook app list was reviewed **FIXED**
- Profile is shared with Friends' apps **FIX**

**Friends**

- Family and friends may have exposed timelines **FIX**

**Graph Search Exposure** **HIGH**

- Activity log unreviewed
- Non-friends see posts
- No notice of tags

**What are you worth?**

**\$1.32** **Share**

Facebook makes about this much per year from ads at your level of activity. Per-page revenue estimates from Treffix.com

**Facebook tracks on**

**89%** of sites that you visited



## SimpleWash

You spent the last four years being a college kid. That's wonderful, but a lot can happen in four years. The internet never forgets. You've partied, you've befriended some questionable characters, and you've posted things meant only for friends. Heck, you just lived your life and did your thing - and now, you've got the posts and pics to show it.

<http://privacyfix-chrome.en.softonic.com/>

# POLICY OR LEGAL: PRIVACY RIGHTS

(UN, OECD – Organization for Economic Co-operation and Development)

**Collection Limitation**

**Data quality principle**

**Purpose specification**

**Use limitation principle**

**Security safeguards principle**

**Openness principle**

**Individual participation principle**





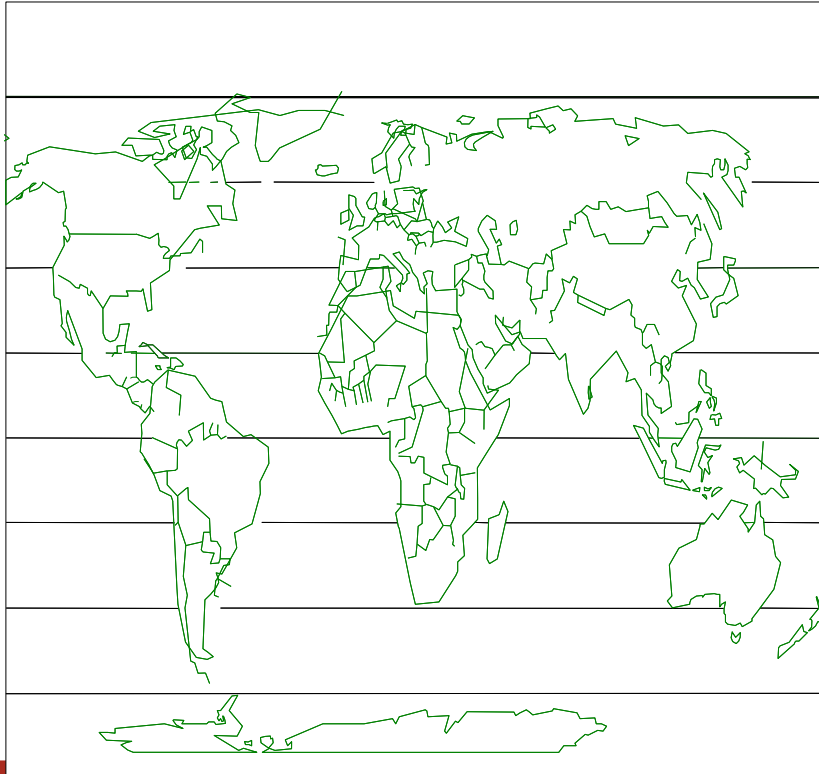
# US FEDERAL LAWS AFFECT PRIVACY (>30)

- |  |  |
|--|--|
| <ol style="list-style-type: none"><li>1. Administrative Procedure Act. (5 U.S.C. §§ 551, 554-558)</li><li>2. Cable Communications Policy Act (47 U.S.C. § 551)</li><li>3. Census Confidentiality Statute (13 U.S.C. § 9)</li><li>4. Children's Online Privacy Protection Act of 1998 (15 U.S.C. §§ 6501 et seq., 16 C.F.R. § 312) [Internet 2001]</li><li>5. Communications Assistance for Law Enforcement (47 U.S.C. § 1001)</li><li>6. Computer Security Act (40 U.S.C. § 1441)</li><li>7. Criminal Justice Information Systems (42 U.S.C. § 3789g)</li><li>8. Customer Proprietary Network Information (47 U.S.C. § 222)</li><li>9. Driver's Privacy Protection Act (18 U.S.C. § 2721)</li><li>10. Drug and Alcoholism Abuse Confidentiality Statutes (21 U.S.C. § 1175; 42 U.S.C. § 290dd-3)</li><li>11. Electronic Communications Privacy Act (18 U.S.C. § 2701, et seq.)</li><li>12. Electronic Funds Transfer Act (15 U.S.C. § 1693, 1693m)</li><li>13. Employee Polygraph Protection Act (29 U.S.C. § 2001, et seq.)</li><li>14. Employee Retirement Income Security Act (29 U.S.C. § 1025)</li><li>15. Equal Credit Opportunity Act (15 U.S.C. § 1691, et seq.)</li><li>16. Equal Employment Opportunity Act (42 U.S.C. § 2000e, et seq.)</li><li>17. Fair Credit Billing Act (15 U.S.C. § 1666)</li><li>18. Fair Credit Reporting Act (15 U.S.C. § 1681 et seq.)</li></ol> | <ol style="list-style-type: none"><li>19. Fair Debt Collection Practices Act (15 U.S.C. § 1692 et seq.)</li><li>20. Fair Housing Statute (42 U.S.C. §§ 3604, 3605)</li><li>21. Family Educational Rights and Privacy Act (20 U.S.C. § 1232g)</li><li>22. Freedom of Information Act (5 U.S.C. § 552) (FOIA)</li><li>23. Gramm-Leach-Bliley Act (15 U.S.C. §§ 6801 et seq)</li><li>24. Health Insurance Portability and Accountability Act (Pub. Law No. 104-191 §§262,264; 45 C.F.R. §§ 160-164)</li><li>25. Health Research Data Statute (42 U.S.C. § 242m)</li><li>26. Mail Privacy Statute (39 U.S.C. § 3623)</li><li>27. Paperwork Reduction Act of 1980 (44 U.S.C. § 3501, et seq.)</li><li>28. Privacy Act (5 U.S.C. § 552a)</li><li>29. Privacy Protection Act (42 U.S.C. § 2000aa)</li><li>30. Right to Financial Privacy Act (12 U.S.C. § 3401, et seq.)</li><li>31. Tax Reform Act (26 U.S.C. §§ 6103, 6108, 7609)</li><li>32. Telephone Consumer Protection Act (47 U.S.C. § 227)</li><li>33. US Patriot Act</li><li>34. Video Privacy Protection Act (18 U.S.C. § 2710)</li><li>35. Wiretap Statutes (18 U.S.C. § 2510, et seq.; 47 U.S.C. § 605)</li><li>36. Fair and Accurate Credit Transactions Act of 2003 (FACT Act)</li><li>37. Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003 (CAN-Spam Act)</li></ol> |
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# PRIVACY LEGISLATION IN MAJOR REGIONS

## SAMPLE OF DATA PROTECTION LAWS WORLDWIDE



- The EU Data Protection Directive & comparable privacy legislation by 15 member states
  - Based on -- OECD Organisation for Economic Cooperation and Development 7 principles
  - Notice, Choice, Onward Transfer, Security, Data Security, Data Integrity, Access, Enforcement
- Switzerland - Federal Act on Data Protection (1992)
- Hungary - Protection of Personal Data and Disclosure of Data of Public Interest (1992)
- Canada - Personal Information Protection and Electronic Documents Act (2000)
- Argentina - Personal Data Protection Act (2000)
- Chile - Law for the Protection of Private Life (1999)
- Australia - Privacy Amendment (Private Sector) Act (2000)
- Hong Kong - The Personal Data (Privacy) Ordinance (1996)
- New Zealand - Federal Privacy Act (1993)
- **EU GDPR – May 2018**

# WEBSITE: PROPERTY WHO OWNS IT?



“Being on a firm’s website is akin to **being “on their property,”** implicitly giving the firm ownership of the data. While the consumer jointly owns this data in principle, the reality is quite different.

***Amazon owns the browsing and purchase history of their consumers,*** and while it shares a consumer’s purchase history on request, consumers still require Amazon’s cooperation in receiving this data.

***It is impossible for a user to get access to their browsing history from Amazon.***

Google owns its consumers’ search and subsequent browsing/click-through history on Google’s web site. “

# EUROPEAN “RIGHT TO BE FORGOTTEN”

The “Right to be Forgotten” is a concept that it is an individual’s right to have certain data about them deleted so third parties cannot trace them.

Thousands of Europeans asked Google to take down links, mostly pertaining to criminal records. Although many have been removed, this was mainly due to court orders and policy requests.

Ruling difficult for Google for obvious reason that there is so much on the Internet that they would be responsible for taking down if people so wished.

Few days after the court ruling of the Right to be Forgotten in Europe, Google received more than 12,000 requests for removal.

Source: Gallenger

# PERSONAL PRIVACY: TRENDS

## **Digital technologies**

- Individual, personal value of privacy

## **Selling personal data**

- Loyalty programs

## **Self exposure**

- Social Networks





# PRIVACY SHARING DNA

[HTTPS://GETPOCKET.COM/EXPLOR  
YOUR-ONLINE-DNA-DATA-IS-BRU  
UTM\\_SOURCE=POCKE](https://getpocket.com/explore-your-online-dna-data-is-bru)



# INTELLECTUAL PROPERTY RIGHTS (KEEP YOUR IDEAS “PRIVATE”)

Intangible property created by individuals or corporations

## Trade Secret

- Novel ideas not in public domain.
- Employees sign nondisclosure agreement

## Copyright

- Prevents copying
- Does not protect underlying ideas

## Patent

- Exclusive monopoly for limited # years
- Idea must be disclosed publicly

# TECHNOSTRESS: ERA OF DIGITALIZATION

**Stress or psychosomatic illness caused by working with computer technology on a daily basis.**

**Expect people to respond like computers do.**



# CONCLUSION: EXECUTIVE ROLES IN MANAGING IT

Design systems people can use in a socially ethical and responsible manner

Understand privacy implications

Role of security



# PRIVACY: THE USER

## **Identity theft**

- Shred all documents that contain personal information
  - Never send personally identifying information in unencrypted email
  - Beware of email, phone, and print requests to “verify” personal information
  - Do not carry your social security card with you
  - Use special software to thoroughly clean any digital media before disposal, or physically destroy the media
  - Monitor your credit reports regularly
  - File a police report as soon as you discover purse/ wallet stolen.
  - Make photocopies of driver’s licenses, passports, and credit cards. Store them with phone numbers for all the credit cards in a safe location
- Immediately cancel any lost or stolen credit cards