CS210: Cybercrime and the Law

CS210 Fall 2017
Lecture 5
Announcements

• W3 and R2 due today
• W4 and R3 posted
• Midterm on Oct. 20th (in class)
ETHICS 2.0
Act vs. Rule Utilitarianism

• Act utilitarianism - *actions* should lead to greatest happiness
• Rule utilitarianism - follow *rules* that lead to greatest happiness
Rule vs. Act Deontology

• Rule deontology - make decisions according to fixed objective universal rules
• Act deontology - analyze individual situation and act according to the *most important* duty
Android is not open source. Google won’t tell us where the phones are manufactured.

a) equivocation
b) appeal to popularity
c) argument from ignorance
d) complex question
The iPhone is the best smartphone, because the iPhone is superior to all other phones.

a) strawman fallacy
b) begging the question
c) Texas sharpshooter fallacy
d) argument from ignorance
Android and iPhone users argue about which is best. Clearly, we should use both.

a) false dilemma  
b) composition fallacy  
c) ad hominem  
d) argument to moderation
CYBERCRIME AND THE LAW
IANAL
Definitions

- Law — any system of regulations to govern the conduct of the people of an organization, community, society, or nation.
- Crime — a type of behavior that is has been defined by the state as deserving of punishment, which usually includes imprisonment in the county jail or state or federal prison. Crimes and their punishments are defined by Congress and state legislatures.
Definitions

• Criminal law – *laws written by Congress and state legislators that make certain behavior illegal and punishable by fines and/or imprisonment*. Criminal law also includes decisions by appellate courts that define crimes and regulate criminal procedure in the absence of clear legislated rules.

• Civil law – *a generic term for all non-criminal law, usually relating to settling disputes between private citizens*. 
Definitions

• Cybercrime – a crime in which the criminal act can be carried out only through the use of cybertechnology and takes place only in the “cyberrealm”
• Cyber-assisted crime – a crime in which the criminal act is exacerbated or assisted by cybertechnology
Types of Cybercrime

1. Cyberpiracy – reproduce and/or distributing proprietary information
2. Cybertrespass – gaining unauthorized access to a computer system or software
3. Cybervandalism – disrupting communications or destroying data
Examples of Cyber-Related Crime

- Identity theft
- Cyberstalking
- Cyberbullying
- Harassment
- Distributing CP
- Fraud
- Phishing
- Smishing
- Vhishing
- Carding
- Spam
- Libel/Slander
- Counterfeiting
- Industrial Espionage
- Cyber-extortion
- Dark markets
- Doxing
- Swatting
US CYBERCRIME LAWS
Computer Fraud and Abuse Act

- Title 18 U.S. Code Section 1030
- Enacted in 1986
  - Seen as a response to the movie War Games
  - Protected “federal computers” (government interest)
- In 1996, expanded to “protected computers”
  - Used by federal government or financial institution
  - Involved in interstate commerce
  - Also expanded to include using malicious code
18 U.S. Code § 1030 e

(1) the term “computer” means an electronic, magnetic, optical, electrochemical, or other high speed data processing device performing logical, arithmetic, or storage functions, and includes any data storage facility or communications facility directly related to or operating in conjunction with such device, but such term does not include an automated typewriter or typesetter, a portable hand held calculator, or other similar device;

(2) the term “protected computer” means a computer—

(A) exclusively for the use of a financial institution or the United States Government, or, in the case of a computer not exclusively for such use, used by or for a financial institution or the United States Government and the conduct constituting the offense affects that use by or for the financial institution or the Government; or

(B) which is used in or affecting interstate or foreign commerce or communication, including a computer located outside the United States that is used in a manner that affects interstate or foreign commerce or communication of the United States;
CFAA Controversies

1. What constitutes a “protected computer”?
2. What constitutes access “without authorization” or “exceeding authorization”?
3. What constitutes damage and loss?
CFAA Controversies

• (g) Any person who suffers damage or loss by reason of a violation of this section may maintain a civil action against the violator to obtain compensatory damages and injunctive relief or other equitable relief. A civil action for a violation of this section may be brought only if the conduct involves 1 of the factors set forth in subclauses (I), (II), (III), (IV), or (V) of subsection (c)(4)(A)(i). Damages for a violation involving only conduct described in subsection (c)(4)(A)(i)(I) are limited to economic damages. No action may be brought under this subsection unless such action is begun within 2 years of the date of the act complained of or the date of the discovery of the damage. No action may be brought under this subsection for the negligent design or manufacture of computer hardware, computer software, or firmware.
DMCA (1996)

- 17 U.S. Code § 1201
- Anti-Circumvention Provision criminalizes circumventing copyright protection
- No person shall circumvent a technological measure that effectively controls access to a work protected under this title. The prohibition contained in the preceding sentence shall take effect at the end of the 2-year period beginning on the date of the enactment of this chapter.
Other Laws

- 18 U.S. Code § 1037 - Fraud and related activity in connection with electronic mail
- 18 U.S. Code § 1462 - Importation or transportation of obscene matters
- 18 U.S. Code § 1466A - Obscene visual representations of the sexual abuse of children

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<thead>
<tr>
<th>Possession</th>
<th>Receipt/Distribution/Transportation</th>
<th>Production</th>
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<tbody>
<tr>
<td>1st Time Offender</td>
<td>Recidivist</td>
<td>1st Time Offender</td>
</tr>
<tr>
<td>No MM/10Y Max.; 20Y Max. if &gt; age 12</td>
<td>10Y MM/20Y Max.</td>
<td>Recidivist</td>
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<td>5Y MM/20Y Max.</td>
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<td>15Y MM/30Y Max.</td>
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US INVESTIGATION LAWS
4th Amendment

• When can government access your data?
• *The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.*

• Warrant required when person has reasonable expectation of privacy
Warrant vs. Subpoena

- **Subpoena** – a court order issued at the request of a party requiring a witness to testify, produce specified evidence, or both.

- **Warrant** – an order signed by a judge that directs owners of private property to allow the police to enter and search for items named in the warrant.
  
  – Must have probable cause
Would FBI hacking your computer be a search requiring a warrant under 4th Amendment?

a) yes  
b) no

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ECPA

• Electronic Communications Privacy Act (1986)
• Three Laws:
  1. 18 U.S. Code § 2510 – Wiretap Act
      – Search warrant required for communication in transit
  2. 18 U.S. Code § 2701-3 – Stored Communications Act
      – Phone conversation content requires a warrant
      – Pen register (non-content) requires subpoena
Stored Communications Act

• 18 U.S. Code § 2701-3
• Governs voluntary disclosure of stored information
• Governs how government can compel disclosure
  – Warrant – requires probable cause
  – 2703(d) order – requires specific facts be relevant
  – Subpoena – requires reasonable relevance
• Government does not need a warrant for communications stored by a third party
Third Party Doctrine

- Legal theory (based on precedent, not a law)
- Things held out in public are *not* considered *reasonably private*
- Information voluntarily given to a third party is *not private*
- Data shared with banks, ISPs, social media providers, cell providers, and email providers *do not necessarily require a warrant*
Police want to know all of the IP addresses you’ve used to log in to your Gmail account. They need...

a) warrant
b) subpoena

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USA PATRIOT Act (2001)

- Extended pen register definition to include internet analogues
- Extended “computer trespasser” definition to include cyberterrorism
- Extended CFAA to include definition of loss
- Allows nationwide warrants for e-mails
- Allows prosecution of attackers outside US
- Expanded the use of National Security Letters
National Security Letters

• A form of administrative subpoena
• Includes a gag order for recipient
• No court oversight (no expectation of privacy)
• Investigative tool for terrorism and espionage
• Expanded use under PATRIOT Act has been controversial
• Judicial review allowed in PATRIOT Act renewal in 2006
CISA

• Cybersecurity Information Sharing Act (2015)
• Allows companies to share information about cyberattacks with each other and DHS
• No liability for companies sharing such data
• EFF and ACLU concerned about broad language and inclusion of customer data
• “End run around ECPA” - ACLU
Rule 41

• Federal Rules of Criminal Procedure - the *legal rules dealing with investigating, prosecuting, adjudicating, and punishing individuals*

• Supreme Court produces them, Congress approves

• Rule 41 authorizes remote searches of electronic devices (law enforcement hacking)

• Changes allow for a single warrant to target multiple devices, regardless of location

• Changes took effect Jan. 1st, 2016
Problems of Jurisdiction

• Cybercrime easily crosses multiple borders
• International norms established through treaties and trade agreements
• G8 summit in 2000, Council of Europe drafted “COE Convention on Cybercrime”
• Trans-Pacific Partnership (TPP) Intellectual Property Rights Chapter released by Wikileaks
BEYOND JURISDICTION
A US-born NASA scientist was detained at the border until he unlocked his phone

by Loren Grush | @loengrush | Feb 12, 2017, 12:37pm EST
Law is nothing else but the best reason of wise men applied for ages to the transactions and business of mankind.

- Abraham Lincoln
References

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