Cyber Laws

Objectives

- Introduce laws that protect our constitutional rights in cyberspace, including the CFAA, DCMA, ECPA.

- Explore criminal actions that violated the laws.

- Discuss the importance of making ethical sound decisions in cyberspace.

References

- Computer Fraud and Abuse Act
- Digital Millennium Copyright Act
- Electronic Communications Privacy Act

- Sony Entertainment, Inc vs. Hotz
- US vs. Morris
- Robbins vs. Lower Merion School District

Computer Fraud and Abuse Act

- Law passed in 1986; updated in 1996, 2001, 2008

- Prohibits unauthorized access (trespass) to computers and networks, extortion or threats of attacks

- Transmission of code or programs that cause damage to computers or other related actions to protected

- Addresses unauthorized access to government, financial institutions and other computer and network systems

US vs. Morris

WHAT HAPPENED

- Robert Morris wanted to demonstrate how a computer attack could spread, so he developed a computer program, later known as the Internet *worm* .

- He released the *Worm* on MIT's computer network.

- The program spread across a national network of computers including university, governmental, and military computers across the country.

CONSEQUENCES

- Morris was convicted under the Computer Fraud/Abuse Act for causing damage and ==gaining unauthorized access to federal interest== computers.

CFAA Violations

- Guessing your friends Facebook Password and logging into their account

- Changing your grades using your teacher's computer when they aren't looking

- Trolling Elon Musk by posting his flight details to X (Formerly Twitter)

Can you think of any CFAA Violations?

Digital Millennium Copyright Act

OVERVIEW:

- Law passed in 1998
  - Exceptions added: 2000, 2003, 2006, 2010, 2013

- Criminalizes the act of ==unlawful reproduction or distribution of copyrighted material==

- No one ==should tamper with and break an access control mechanism== that protects copyrighted material

- Provides an explicit exemption for encryption research for identifying flaws

Sony vs. GeoHot

WHAT HAPPENED

- Sony Computer Entertainment sued George Hotz for jailbreaking a PlayStation 3

- Allowed Hotz to control crucial functions and operations of the PS3 system

- Hotz argued that because he purchased the product, he had the right to do with it as he pleased

CONSEQUENCES

- Sony and Hotz decided to settle out of court

- Included an injunction against George Hotz

- As a result, Hotz was barred from hacking any more Sony products

DMCA Violation Examples

- Downloading a stolen copy of a movie that you do not own

- Installing a mod chip in your Xbox so you can play pirated games

- Jailbreaking your iPhone so you can install homebrew apps

Can you think of any DCMA violations?

Electronic Communications Privacy Act

OVERVIEW:

- Law passed in 1986
  - Updated in 1994, 2001, 2006, & 2008

- 2 key statutes in ECPA:
  - Sec 2510 Wiretap Act: Protects communications during transmission

  - Sect 2701 Stored Communications Act: Protect communications stored electronically somewhere; reinforces 4th amendment for a digital medium

Robbins v. Lower Merion School District

WHAT HAPPENED

- Two suburban High Schools in Philadelphia Lower Merion School District were charged for remotely activating webcams embedded into school-issued laptops and monitoring students at home

- Over 66,000 Webshots and screenshots were taken, including shots of students in bedrooms

CONSEQUENCES

- Lower Merion School District prohibited from the access of remotely accessing webcams.

- The school district agreed to pay $610,000 settlement

ECPA Violation Examples

- Installing a spyware app on your boyfriend's phone to record his calls without his consent

- Capturing the wireless network traffic of your neighbor who does not encrypt their Wi-Fi router

- Taking a picture of a house you don't own but hope to some day

Can you think of any ECPA: Wiretap Act violations?

Access Device Statute

OVERVIEW:

- Law passed in 1984

- Prohibits unauthorized access to accounts; theft of money; products and services, and similar crimes

- Criminalizes possession, use, or trafficking of counterfeit or unauthorized access devices

- An access device is a person id, plate, serial number, mobile id, or account number

- Criminalizes illegally obtaining credentials without even using them.

US v. Tien Nguyen

WHAT HAPPENED

- Tien Nguyen was accused of involvement in International phishing identity theft and computer fraud scheme, 2005~2007.

- Nguyen posted websites that looked identical to legitimate banking and businesses like PayPal.

- He sent out emails to lure third parties to enter personal and financial information including credit card and debit card numbers

- Resulted in acquiring thousands of credit and debit card numbers, and social security numbers

CONSEQUENCES

- Tien Nguyen sentenced to 12 years in prison

Access Device Statute Violation Examples

- Installing a credit card skimmer at your job to steal the credit card numbers and sell them

- Downloading a list of cracked passwords from the dark web

- Helping your grandmother log into Facebook by typing in the password for her