Ethics or Death

Florida Tech IoT Security & Privacy Lab

What is a Crime?

Crimes

Illegal acts that exceeds the scope of our published laws.
Acts that violate other citizens constitutional rights

Title 18 Sec 1030: COMPUTER FRAUD AND ABUSE ACT

CFAA Overview:

- Law passed in 1986
  - Updated in 1996, 2001, 2008

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

- Transmission of code or programs that <mark>cause damage to computers or other related actions to protected</mark>

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

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United States v. 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 <mark>gaining unauthorized access to federal interest</mark> computers.

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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)

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Can you think of any CFAA Violations?

Title 17 Sec. 1201: 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

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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

Figure 3. Amazon (2023) https://www.amazon.com/PlayStation-3-250GB-System/dp/B002I0H738

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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

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Can you think of any DCMA violations?

Title 18 Sec. 2510/2701:
Electronic Communication 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

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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

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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

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Can you think of any ECPA: Wiretap Act violations?

Title 18 Sec. 1029: 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.

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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

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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

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Can you think of any Access Device Statute violations?

Activity: Gameboy Ethics or Death!

Rules of the game:

- Successfully complete 4 levels, each has 3 questions you must answer correctly.
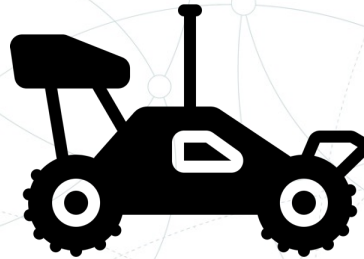
Controls of the game:

Enter/Interact

Move around in the environment

Next Week

Homework: *How the Best Hackers Learn Their Craft (YouTube)*

Debrief

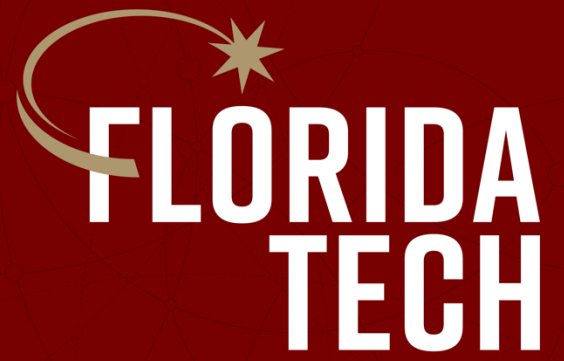1. Did you encounter the character with the secret to cheat the game?

2. How many of you found the secret?

3. How many did not find the secret?

4. From an ethical standpoint, what should you all have done?

5. Were there any questions you struggled with or were surprised about?

Note: Post surveys!

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Thank you.