

Computer Crime

- Slides based on those posted at Sara Baase “Gift of Fire” website
- <http://www-rohan.sdsu.edu/faculty/giftfire/>
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Computer Crime

- Hacking
- Identity Theft and Credit Card Fraud
- Scams and Forgery
- Infringements of copyright and patents
- Will crime cease to exist?

Computer Crime

- Will crime cease to exist?
 - “adaptive” vs. “maladaptive”
 - job security for law enforcement
- Can crime be prevented?

Computer Crime

- Will crime cease to exist?
 - “adaptive” vs. “maladaptive”
Adaptive: behavior that increases actor's chances of having offspring that will survive to their reproductive age

Computer Crime

- Will crime cease to exist?
 - “adaptive” vs. “maladaptive”
Maladaptive: behavior that decreases actor's chances of having offspring that will survive to their reproductive age

Hacking

- Hacking – an activity to gain illegal or unauthorized access to a file, computer, or network

Hacking (cont.)

Hacktivism, or Political Hacking:

- Hacking that promotes a political agenda
- How to tell hacktivism from vandalism?

Hacking (cont.)

The Law: Punishing Hackers:

- 1986 Computer Fraud and Abuse Act (CFAA)
 - makes it a federal crime to access any protected computer without authorization

A Hacking Question

- Do you think hiring former hackers to enhance security is a good idea or a bad idea? Why?

Identity Theft and Credit Card Fraud

Stealing Identities:

- Identity Theft
 - Use credit/debit card numbers, personal information, and social security numbers
 - E-commerce has made it easier to steal card numbers and use without having the physical card

Identity Theft and Credit Card Fraud

- Techniques used to steal personal and financial information
 - Phishing
 - Pharming
 - Spoofing
 - Resumes posted online may reveal SSNs, work history, birth dates and other information that can be used in identity theft

Identity Theft and Credit Card Fraud

Phishing

- Source:
- Wikipedia



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If this information is not correct, someone unknown may have access to your account. As a safety measure, please visit our website via the link below to verify your personal information:

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Identity Theft and Credit Card Fraud

Prevention of Identity Theft:

- Authentication of e-mail and Web sites
- Use of encryption to securely store data
- Use of biometrics

Infringements of copyright

1790 first copyright law

1909 Copyright Act defined an unauthorized copy

1976 and 1980 copyright law revised to include software and databases, included the "Fair Use Doctrine"

Infringements of copyright

1982 high-volume copying
became a felony

1992 making multiple copies for
commercial advantage and
private gain became a felony

Infringements of copyright

1997 No Electronic Theft Act made it a felony to willfully infringe copyright by reproducing or distributing one or more copies of copyrighted work with a total value of more than \$1,000 within a six-month period

1998 Digital Millennium Copyright Act (DMCA) prohibits making, distributing or using tools to circumvent technological copyright protection systems and included protection from some copyright lawsuits for Web sites where users post material

2005 Congress made it a felony to record a movie in a movie theater

Infringements of copyright

Fair Use Doctrine:

Four factors considered

Purpose and nature of use – commercial (less likely) or non-profit purposes

Nature of the copyrighted work

Amount of significance or portion used

Effect of use on potential market or value of the copyright work (will it reduce sales of work?)

No single factor alone determines

Not all factors given equal weight, varies by circumstance

Laws that Rule the Web

Laws vary from country to country

- Corporations must comply with the laws of the the countries they do Internet business with.
- Actions that are legal in one country may face prosecution in another country.

Some of the Giants

(dates are approximate)

George Boole - Boolean algebra (1854)

Herman Hollerith - Sorting with punched cards
(1890)

Alan Turing - Theory of computation (1920s)

Some of the Giants

J.V. Atanasoff - first electronic computer (1937)

Claude Shannon - Switching circuits (1937) and
Information theory (1948)

Howard Aiken - Mark I computer (1944)

Some of the Giants

John von Neumann - EDVAC (1944)

John Mauchly and J. Presper Eckert - ENIAC
(1945)

John Bardeen, Walter Brattain, and William
Shockley - transistor (1947)

Some of the Giants

Norbert Weiner - Cybernetics (1948)

Edsger Dijkstra - fundamental graph algorithms
(1956)

John Backus - FORTRAN compiler (1957)

Some of the Giants

John McCarthy - Artificial Intelligence (1958)

Tony Hoare - proofs of programs' correctness
(1960s)

Donald Knuth - The Art of Computer
Programming (1968)

Some of the Giants

Niklaus Wirth - Pascal (1970)

Ken Thompson and Dennis Ritchie - UNIX
operating system (1970s)

Steve Cook and Richard Karp - NP-
completeness theory (1971)

Seymour Cray - supercomputer CRAY-1 (1976)