

Security - Legal Issues

Note Title

4/12/2011

Announcements

- Good faith paper (due next Tuesday)
- Lab due Wednesday
- Next lab up today
 - read by next Tuesday
 - due after Easter
 - checkpoint next Wednesday

Types of Computer Crime

The DOJ categorizes cyber crime based on the role of the computer:

- target : data & system integrity
confidentiality
privacy
availability ← DDOS

- storage

- communication tool : sale of illegal items
fraud
gambling

International Cybercrime

- Illegal Access
 - Illegal interception
 - Data interference
 - System interference
 - Misuse of devices
 - Computer forgery
 - computer fraud
 - child pornography
 - infringement of copy right
 - attempt & aiding or abetting
- (for these)

Crime stats

(table in book)

Challenges to law enforcement

- investigation requires technical expertise
- lack of resources
- global scope in many investigations
- lack of collaboration & cooperation

Case study: Kevin Mitnick

Mitnick actually committed many
computer crimes:

-1983: While a student at USC, broke
into ARPANet.

Gained access to Pentagon
Spent 6 months in juvie center

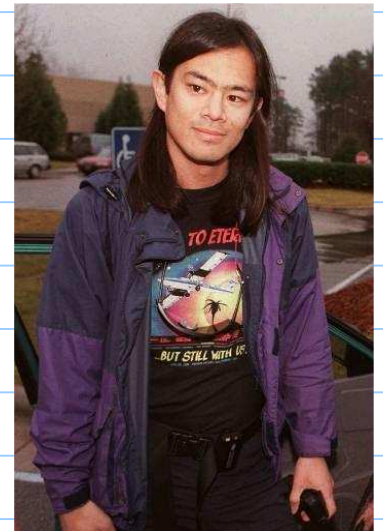
-1987: • Along with a friend, DiCicco, broke
into DEC to steal source code for
VMS OS (for VAX computers).
Successfully avoided capture by
scrambling calls.
Problem: DiCicco

Case study cont:

1994: Mitnick decided to attack another security expert, Tsutomu Shimomura.
Hacked his personal computer using IP Spoofing & TCP sequence number prediction.
(show tcpdump)

Shimomura's firewall detected this, & he traced it back to Mitnick

Decided to get back at him



Property

In the US, 3 types:

① Real property (land & things permanently attached to land)

② Personal property

③ Intellectual property

Intellectual Property

3 main types are given legal protection

① copyrights: protect tangible of fixed
expression of an idea
(not idea itself)

② trademarks: a name, symbol, word, or
device used in trade to indicate
source of a good
(also service marks)

③ patents: "the right to exclude others
from making, using offering for sale,
or selling" an invention

Examples

Copyright: Literary works,
musical works,
architectural works,
Software related works

Patents: Utility, design, or plant
patents
(Most relevant - RSA)

↑
Expired in 2000

What is protected?

Software: mostly under copyright,
although patent is possible

Databases: copyright

Digital Content: copyright

Algorithms: patent

Legislation: DMCA, 1998

- Strengthens protection of copyrighted materials in digital format

Encourages copyright owners to protect works by:

- preventing access to work
- prevent copying of work

"No person shall circumvent a technological measure that effectively controls access to a work protected under this title"

So you cannot decrypt content or manufacture, release, or sell devices which do so.

Exemptions

- Fair use
- Reverse engineering (for interoperability)
- encryption research
- security testing
- personal privacy

DRM - Digital Rights Management

DRM refers to systems or procedures that ensure holders of digital rights are clearly identified & get paid.

No single standard for this.

Generally, distributor encrypts the content, & a license must be purchased from a clearing house.

certificate authorities

Case Study : DVD Jon (Jon Johansen)

A famous "cracker": not interested in hacking computers.

In 2001, started making a name by posting methods to circumvent DRM.

In 2003, wrote QTFairUse, a program which could strip DRM data from iTunes purchases.

Most recently, focused on iPhones - first person to use an iPhone without subscribing to the mandatory carrier.

Privacy

European Union Data Protection Directive, 1998:

- Organizations must notify individuals about personal info collected, as well as uses and choices.

- Consent (for 3rd parties)

- Consistency

- Access

- Security

- Onward transfer

- Enforcement

US Privacy

Privacy Act of 1974

governs storage, dissemination, & access of personally information gathered by the government

Other legislation:

- banking
- credit reports
- medical & health insurance info
- children's privacy
- electronic communications

Ethical Issues in Computing

A huge area - go take the class!

Case study: Jailbreaking

Your assignment

We're going to do a case study discussion next Tuesday in class. (no extensions)

Please bring a 300-word essay, which will be participation. (So you don't have to be so careful.)

4 sources of info

(no Wikipedia)

2 sources provided, find at least 2 more.
(No Wikipedia!)

Questions: - Is it permissible for Sony to prevent people from jailbreaking the PS3?

- Is it permissible for members of Anonymous to perform DDOS attacks against Sony as an act of retribution?

- Did Hotz have a responsibility to the hacker community?