Cyber Crime

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Cyberspace

- Metamorphic space of computer systems and computer networks.

- Here electronic data are stored and online communication takes place.

- An apparent perception of object experienced daily by the operators of Information and Communication Technology throughout the world.

- The term was originated in science fiction.

Cyber Crime

◻ Also known as E-crime.

◻ Almost conventional crime in nature committed by using computer and ICT with an intention to make social disorder.

   ◻ Hacking

   ◻ Unauthorized access to a computer system

   ◻ Distributing software to commit a crime

   ◻ Launching a denial of service attack intentionally or causing a computer system to deny service to any authorized user.

Modern Computer Crimes

- Can be based on malicious code such as a virus, email virus, worm or Trojan horse.
  - *Also known as Passive Attacks*
- Or actively perpetrated by knowledgeable individuals,
  who attempt to exploit network, computer, and software flaws
  - *Also known as Active Attacks*

It is crime, because…..

- Damage a home computer
- Bring down a business
- Weaken the telecom, financial, or even defense-related systems of a country
- Defame the social elite or reputed person.
- Cheat with needy people and make financial loss.
  and many more……………

Types of cyber crimes......

- Financial crimes
- Cyber pornography
- Sale of illegal articles
- Online gambling
- Intellectual property crimes
- Email spoofing
- Forgery
- Cyber defamation
- Cyber stalking

Financial crimes

- **Credit card fraud**
  - A thief somehow breaks into an eCommerce server and gets hold of credit numbers and related information
  - The thief then uses that info to order stuff on the Internet
  - Alternatively, the thief may auction the credit card info on certain Web sites setup just for that purpose

Financial crimes….

Cheating

- Punjab National Bank was cheated to the tune of Rs. 1.39 crore through false debits and credits in computerized accounts.

Cyber Pornography….

- Designing and building pornographic websites to gain financial benefits by producing the advertisement of illegal or sexual items, medicines or costumes.

- Publish or print pornographic magazines using computers and the internet to download photographic pictures, videos, writings etc.

- Storing and carrying pornographic contents in computers, mobile phones and others portable devices.

Sale of illegal articles….

- Sale of Narcotics
- Sale of weapons
- Sale of illegal medicine

[This can be done by posting information on websites, auction websites, and bulletin boards or simply by email communication.]

Online gambling….

Many websites offer online gambling. In most of the cases, these are actually….

⊠ Fronts of money laundering
⊠ Related with drug trafficking

Intellectual property crimes…

- Software piracy
- Copyright infringement
- Trademarks violation
- Theft of source code
- Registering domain under different fictitious names.

Software Piracy

- Using a piece of SW without the author's permission or employing it for uses not allowed by the author is SW piracy

- For whatever reason, many computer users do not consider it to be a serious crime, but it is!

- Only the large rings of illegal SW distributors are ever caught and brought to justice

- Defense: Various authentication schemes. They, however, are seldom used as they generally annoy the genuine users

Email spoofing…..

- Email which appears to originate from one source but actually has been sent from another source.

Case study: once numerous customers of a bank decided to withdraw their money and close their accounts. It was revealed that someone sent out spoofed emails to customers stating..”The bank was in very bad shape financially. It could close operations at any time.” The email appeared to have from the bank itself.

Forgery......

Using sophisticated computers, high quality printers and scanners, counterfeit….

- Currency notes
- Postage and revenue stamps
- certificates
- Mark sheets etc…..

Cyber defamation….

- Sending derogatory, defamatory and obscene email about someone or company.
- Posting or publishing any content on the website which is defamatory for any company or personnel.
- Posting defamatory objects about someone or any company or any organization on social blogging sites.
- Super imposing on nude pictures or something like that.

Cyber stalking….

Abnormal or illegal movements of a person across the internet. The person sends the messages on the bulletin boards frequently to the victim. He can enter into the chat-rooms and disturbs the victim by constantly sending emails.

Technical Cyber Crimes…….

- Unauthorized Access
- Theft of Information contained in Electronic form
- Email Bombing
- Data Diddling
- Salami attacks
- Worms attacks
- Logic bombs

Technical Cyber crimes…

- Trojan attacks
- Internet Time theft
- Web Jacking
- Theft of Computer System
- Physically damaging a computer system

Mail Bombing

- A stream of large-sized eMails are sent to an address, overloading the destination account

- This can potentially shut-down a poorly-designed eMail system or tie up the telecom channel for long periods

- Defense: eMail filtering

Break-Ins

- Hackers are always trying to break-in into Internet-connected computers to steal information or plant malicious programs

- Defense: Intrusion detectors

Industrial Espionage

- Spies of one business monitoring the network traffic of their competitors
- They are generally looking for info on future products, marketing strategies, and even financial info
- Defense: Private networks, encryption, network sniffers

Web Store Spoofing

- A fake Web store (e.g. an online bookstore) is built

- Customers somehow find that Web site and place their orders, giving away their credit card information in the process

- The collected credit card information is either auctioned on the Web or used to buy goods and services on the Web