Use of Technology to Distribute Child Pornography

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Objectives
After this session, you will be able to:
- Identify various technologies that are components of the “Internet.”
- Describe how selected Internet technologies are used for creating, trading and collecting child pornography.
- Identify some ways that child pornography distributors and possessors may try to conceal their activities and collections.

Impact of Technology
- Law enforcement had nearly succeeded in stemming hard-copy trafficking in 1980's.
- Then, the advent of personal computer – rapidly followed by the capability of transferring digital files online – drastically altered both the reach and the threat associated with the crime.
Child Pornography: Computers and the Internet

- Computers and the Internet revolutionized the child pornography industry
  - Easy to produce
    - No worry about developing film
  - Easy to store
    - Store millions of images on computer media
  - Easy to conceal
    - No worry about the stash being found
  - Easy to transfer
    - No more mail-order or trading pictures in person

Impact of Technology

- Access to vast quantities of images
- Instant availability of images
- Ease of production of new images
- Ease of conversion, circulation of pre-existing magazine or film images
- Seeming anonymity
- Proliferation of sharing communities

Impact of Technology

- Manipulation and morphing of images
- Exacerbation of victimization
  - Collections are larger
  - Can be stored in multiple locations worldwide
  - Images are harder to stamp out
  - Viewed more often and potentially over much longer time
What Kinds of Computers Can Be on the Internet?

- Mainframes
- Laptops
- Personal digital devices
- Cell Phones
- Personal computers

Internet Distribution

- Web sites
- Web cams
- E-mail
- E-groups
- Instant messages
- Chat rooms

Internet Distribution

- Newsgroups
- Bulletin board systems
- File transfer protocol (FTP)
- Peer-to-peer (P2P) networks
- "Virtual worlds"
Web 2.0
- Interactive Internet communities
- Social networks
- Blogs
- Wikis
- Video or photo sharing sites
- Online role-playing games
- Virtual worlds

Web Pages and Sites
- May have text, graphics, audio, video, links to other pages or sites.
- May contain CP images only or have such images embedded in adult pornography.
- May be temporary, advertised on pedo BBS’s.

Web Pages and Sites
- May be given innocuous names ("volleyball") or other codes ("ch*ldp*m") to evade screening
- May be flooded with hits and then closed down
- Often contain Zip archives, the password for which is later posted on a BBS
Web Cams

- Video cameras that permit live images to be displayed via a Web page.
- CP images may be broadcast in real time.
- Viewers can make online requests for certain images, or for particular sexual activities with child.

E-mail

- Transmission of text messages and attached files.
- May be sent to child as part of grooming process.

E-mail

- Considered risky by “seasoned” users, for danger of unwittingly sending e-mails to undercover investigators.
**E-groups**

- Established to share info on topics of common interest.
- Subscription required.
- Besides e-mail, may offer chat rooms, BBSs, and/or central home pages.

**Child Pornography Rings**

- Predated Internet but generally involved only producers.
- Concept has grown to include consumers.
- By enabling consumers to re-trade images, the Internet has, in effect, made them distributors.
- Example/Case study – The “Wonderland Club”
Newsgroups

- Sites stored on news servers that allow contributors to discuss particular subjects.
- Network of newsgroups called "Usenet."
- Allow posting of text, images, etc., and responding to posts.
- Usually no central authority.
- Password may be required, and some filter through moderators.

Newsgroups

- Specific CP groups give members forums to discuss their sexual interests in children, and to post CP.
  - Ex: alt.binaries.pictures.erotica.pre-teen
- Most commercial servers block access but some servers do provide access.
- User runs risk of having identity captured by cc payments or server’s IP records (unless true IP concealed by user).

Bulletin Board Systems (BBS)

- Predate the Internet.
- Similar to newsgroups, but tend to be in real time, allowing contributors to converse.
- Can be hosted on a standard home computer.
- May be accessed directly via modem w/o going through Internet.
- May host discussions that provide advice to seekers of CP.
- May be monitored by system admins who filter postings.
Chat rooms

- Services that permit users to engage in real-time conversations and exchange digital files.
- Many open to anyone to log into, some are closed.
- May use moderators.

Chat rooms

- May be used to locate potential victims.
- May be password-protected.
- Open rooms avoided by "seasoned" child pornographers because of infiltration by undercover investigators.

Instant Messaging (IM)

- Similar to chat rooms, but permit private conversations with nominated contacts (buddy list).
- Once connection established, direct contact between users possible w/o need for a central server.
Peer-to-Peer (P2P) Networks

- Networks in which computers are equal partners, using common file-sharing programs (e.g., LimeWire) that allow users to connect directly to each other's computer hard drive to search for and exchange files of all kinds.
- Reduce reliance on search engines.
- Transfer data faster.

Peer-to-Peer (P2P) Networks

- Facilitate file-sharing among CP users.
- Rapidly evolving and popular technology.
- Virtual networks allow closed groups to trade images.

Client-Server vs. Peer-to-Peer
Decentralized Model

How Gnutella Works

Third Model – BitTorrent
### Child Exploitation / Pornography

![Classification of 541 Images Downloaded through Kazaa](image)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child erotica</td>
<td>13%</td>
</tr>
<tr>
<td>Nonpornographic</td>
<td>44%</td>
</tr>
<tr>
<td>Adult pornography</td>
<td>14%</td>
</tr>
<tr>
<td>Child pornography</td>
<td>29%</td>
</tr>
</tbody>
</table>

(Source: Customs Cyber Smuggling Center. Note: 541 analysis of files provided by the Customs Cyber Smuggling Center)

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### Child Porn Easy to Find, Share

<table>
<thead>
<tr>
<th>Virtual World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coke Studios</td>
</tr>
<tr>
<td>Cybertown</td>
</tr>
<tr>
<td>Disney's Toontown</td>
</tr>
<tr>
<td>Dreamville</td>
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<tr>
<td>Dubit</td>
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<tr>
<td>Habbo Hotel</td>
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<tr>
<td>The Manor</td>
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<td>Moove</td>
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<td>Muse</td>
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<tr>
<td>The Palace</td>
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<tr>
<td>Playdo</td>
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<tr>
<td>Second Life</td>
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<tr>
<td>The Sims Online</td>
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<tr>
<td>Sora City</td>
</tr>
<tr>
<td>TowerChat</td>
</tr>
<tr>
<td>Traveler</td>
</tr>
<tr>
<td>Virtual Ibiza</td>
</tr>
<tr>
<td>Virtual Magic Kingdom</td>
</tr>
<tr>
<td>Voodoo Chat</td>
</tr>
<tr>
<td>VPChat</td>
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<tr>
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<td>whyrobbierocks</td>
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<tr>
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<tr>
<td>Worlds.com</td>
</tr>
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<td>Yohoho! Puzzle Pirates</td>
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### “Virtual Worlds”

- Coke Studios
- Cybertown
- Disney's Toontown
- Dreamville
- Dubit
- Habbo Hotel
- The Manor
- Mokitown
- Moove
- Muse
- The Palace
- Playdo
- Second Life
- The Sims Online
- Sora City
- TowerChat
- Traveler
- Virtual Ibiza
- Virtual Magic Kingdom
- Voodoo Chat
- VPChat
- VZones
- whyrobbierocks
- Whyville
- Worlds.com
- Yohoho! Puzzle Pirates
Ex: Second Life

Avatars in Second Life
“Private” Room in Virtual World

Ways of Trying to Hide Data

- Password protection schemes
- Encryption
- Steganography
- Anonymous remailers
- Proxy servers

Password Protection

Ex: Secrethelper

![Password Protection Example]
**Encryption**

- Sometimes used as security measure to prevent others from accessing file data.
  - Example: "Pretty Good Privacy"
- Scrambles file data so that it is unusable.

**Steganography – Example**

- **StenographyOriginal.png**
  - (200 × 200 pixels, file size: 88 KB)
- **StenographyRecovered.png**
  - (200 × 200 pixels, file size: 19 KB)

**And remember the Cloud**
Questions?

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