

Intellectual Property

Part 2



Pornography

By Jeremy Parmenter



What is pornography

Pornography is the explicit portrayal of sexual subject matter

Can be found as books, magazines, videos

The web has images, tube sites, and pay sites scattered with porn

Statistics

12% of total websites are pornography websites

25% of total daily search engine requests are pornographic requests

42.7% of internet users who view pornography

34% internet users receive unwanted exposure to sexual material

\$4.9 billion in internet pornography sales

11 years old is the average age of first internet exposure to pornography

Innovations

- Richard Gordon created an e-commerce start up in mid-90s that was used on many sites, most notably selling Pamela Anderson/Tommey Lee sex tape
- Danni Ashe founded Danni's Hard Drive with one of the first streaming video without requiring a plug-in
- Adult content sites were one of the first to use traffic optimization by linking to similar sites
- Live chat during the early days of the web
- Pornographic companies were known to give away broadband devices to promote faster connections

Negative Impacts

- Between 2001-2002 adult-oriented spam rose 450%
- Malware such as Trojans and video codecs occur most often on porn sites
- Domain hijacking, using fake documents and information to steal a site
- Pop-ups preventing users from leaving the site or infecting their computer
- Browser hijacking adware or spyware manipulating the browser to change home page or search engine to a bogus site, including pay-per-click adult site
- Accessibility to children

Societal Impacts

Easy access to pornography even children

Unwarranted explicit images

Decrease in sexual assault and rape

Web Cam sites; Average \$450/month

Child Pornography

Child Pornography

- Ease of access for the internet allows illegal content to be shared and saved across the web
- In 2003 20% of the pornography on the web was child pornography
- Some internet users who look for child pornography content can easily hide themselves
- Hackers looking for this content can go under abuse other people's PC's across the globe to access this content

DRM

By: Matthew Potts



What is DRM?

- It is any technology that inhibits the use of digital content that is not desired by the content provider in hopes of preventing piracy.
- Almost every media content provider uses DRM.
 - Amazon, AT&T, Apple, Microsoft, Sony, EA.
- Where Can I find it?
 - E Books
 - DVDs/Blu-Ray Discs
 - Video Games
 - Music

Digital Millennium Copyright Act

- Passed on October 12, 1998.
- Criminalized anyone who made technologies that circumvented content protection technologies(DRM).

Fair Use

- Section 107 of the Copyright Act.
- Allows teachers, search engines, news reporters, critics, researchers, and others to use copyrighted materials in certain circumstances without having to be liable for copyright infringement.
- Has to pass four factor balancing test.
 - Purpose and character
 - Nature of the copied work
 - Amount and substantiality
 - Effect upon work's value

The Grey Area

- Fair use and Digital Media.
- Judge Emilio Garza of the 5th Circuit Appeals Court ruled that circumventing DRM for non-infringing purposes is not illegal.
- As it stands, bypassing DRM to Copy copyrighted digital material is still illegal under the DMCA.

Nothing New

- In 1976, Universal City Studios and the Walt Disney Company both sued Sony over the VCR, which they viewed as a tool of piracy. The Supreme Court in 1984 ruled that the taping of television programs for later viewing constituted a fair use.
- The Film industry argued that Sony should include a sensor in the VCR which could detect a no copy signal from the broadcast, making it possible for copyright owners to prevent their movies or shows from being recorded.
- The Recording Industry Association of America was against mp3 technology and mp3 devices.



Sony BMG rootkit scandal

- In 2005, Sony BMG included Extended Copy Protection and MediaMax CD-3 software on their music CDs. These CDs automatically installed this software on Windows when consumers played the CD. It changed how Windows plays CDs by installing a rootkit which created vulnerabilities on the system. After several class action lawsuits were filed against them, Sony BMG recalled the affected CDs.
- Today, the music industry no longer uses DRM on music CDs.

DRM on Programs

- license keys to activate products
- Miguel Pimentel installed Transmagic which also came bundled with a DRM program called Sheriff. He deleted Transmagic, but Sheriff stayed on his computer. Due to its programming, Sheriff thought Transmagic was still on the computer and that Miguel was pirating it. It scoured his data for his personal information and then sent that information to ITCA(IT Compliance Association). They called Miguel and demanded a \$10,000 license fee and threatened him with a \$150,000 copyright lawsuit.

Digital Music and Video

- Apple used to use Fair Play DRM on music downloaded from iTunes. Prevented songs from easily running on other devices. As of 2009, iTunes no longer uses DRM on music Downloads.
- Amazon MP3 downloads are also DRM free.
- Amazon instant Video requires movies and TV shows to be viewed on Amazon's website or through their Instant Video app. These videos can not be played in VLC, WMP or iTunes.



Blu-Ray Discs

- Blu-Ray Discs can only be played on blu-ray players/PS3. They can be played on a computer with a blu-ray drive as long as it has software that can play it.
- Can not be played using VLC, WMP or iTunes.
- Can not bring blu-ray collection overseas because it is region protected. A blu-ray movie purchased in the United States will not play on a blu-ray player purchased in Europe.

DRM and Video Games

- Electronic Arts used SecuROM on Mass Effect, Spore, Red Alert 3 and many other titles. Purpose was to prevent games from being duplicated and reverse engineered.
 - Some games like BioShock required the game to be activated online.
 - Also limited the number of times a user could install the game.
- Lawsuits Against EA
 - Richard Eldridge filed a lawsuit against EA claiming that SecuROM was secretly installed on his computer and stated that it was “deceptive and unlawful.”
 - Dianna Cortez was unable to remove SecuROM from her PC and had to reformat her PC.



The Pirate Bay



By: Tyler Nakai

The Galaxy's Most Resilient...

- The Pirate Bay is one of the largest BitTorrent websites on the Internet and serves as a torrent search engine.
- It was founded by Gottfrid Svartholm in 2003.
 - Was created for a Swedish group known as the Piratbyrå, who support file sharing and oppose anything that limits this activity.
 - Fredrick Neij and Peter Sunde?
- It is a part of a larger group known as the Kopimi Project (pronounced "copy me").
- Over 5 million registered users.
- Hosts over 4 million torrents.



Quick Overview of BitTorrent

- BitTorrent is widely known protocol used to transfer large files.
 - These files can range from movies to video games.
 - Torrents didn't contain information on the content of the file, just the location.
- It allows for media to be shared through software clients.
- Is utilized by over 150 million users and at any time of the day, it has more users than Facebook and YouTube combined.



BitTorrent™

A Sour Taste

- In May of 2006, a raid against the Pirate Bay took place due to allegations of copyright violations by the Motion Picture Association of America (MPAA).
 - All the servers were confiscated and the website was shut down.
- The men of the Pirate Bay were accused of breaking Swedish copyright law in early 2009 and eventually convicted in Stockholm district court on April 17, 2009.
 - Were sentenced to 1 year in jail and \$3.6 million USD in fines and damages.

For Greater Glory

- During the two years following the raid on the Pirate Bay, there was an increase in both registered users and peers.
 - Registered users more than doubled their previous count, from 1 million users to 2.7 million users.
 - Peers more than QUADRUPLED their previous count, from 2.5 million peers to 12 million peers.
- UK block triggered a rise the of "hits" that the website received daily, reaching over 1.8m.
 - Found ways to bypass blocks.
 - Used proxies and such.



Moving Forward...

- On February 1, 2012, the domain name of the Pirate Bay was changed from thepiratebay.org to thepiratebay.se.
 - This allowed the website to avoid susceptibility to US laws, which would result in a takeover of the site.
- As of late February 2012, the Pirate Bay stopped offering torrent files and instead provided magnet links.
 - These links would help identify a file not by location but by content instead, which is useful in a P2P (peer-to-peer) context.

Just This Month

- A PC video game titled *Hotline Miami* was released, and the day after release, there were already download links up.
 - However, there were multiple glitches and bugs within the game, deeming it unplayable.
- Game developer Jonatan Söderström gave customer support to users of the Pirate Bay.
 - Provided patches for the game and asked for the torrents to be updated.

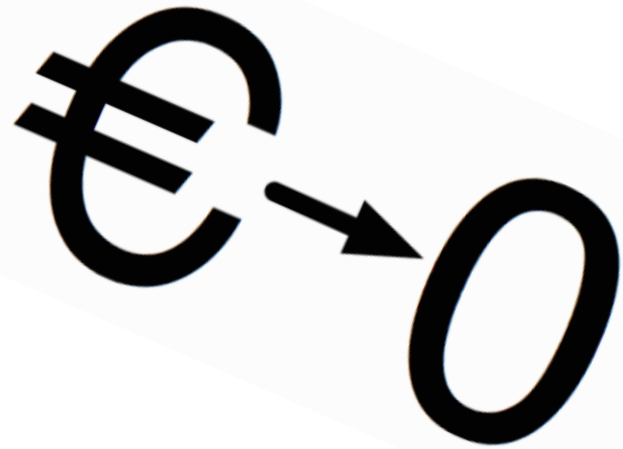
"I don't really want people to pirate Hotline Miami, but I understand if they do. I've been broke the last couple of months. It sucks." -Jonatan Söderström

Networking is Everything

- File sharing does hurt entertainment industries a bit but there can be good things that can come out of piracy.
 - It provides exposure for up and coming music artists, with about 75% of these artists making a profit due to piracy.
 - If the industries bring a good attitude, the future will look upright.

Open Source (Free Software)

By: Yash Patel

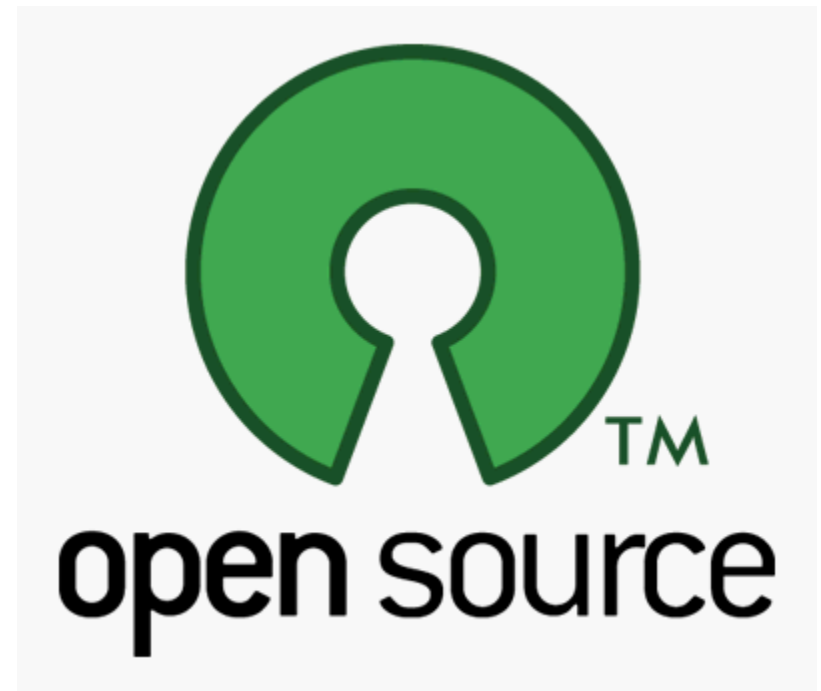


What is Open Source?

Open Source is the promotion of free redistribution and access to an end product's design and implementation details.

Examples :

- GNU/Linux
- Apache web server
- VLC media player
- Mozilla Firefox web browser
- GCC compiler
- KDE Plasma Desktop
- Etc.



THE HISTORY OF OPEN SOURCE

1955



SHARE
Technology - Connections - Results


IBM USER GROUP SHARE IS
FOUNDED TO EXCHANGE PROGRAMMING
INFO AND DISSECT IBM'S OS

60s - 70s



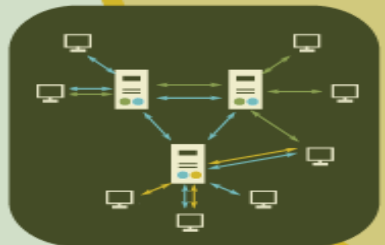
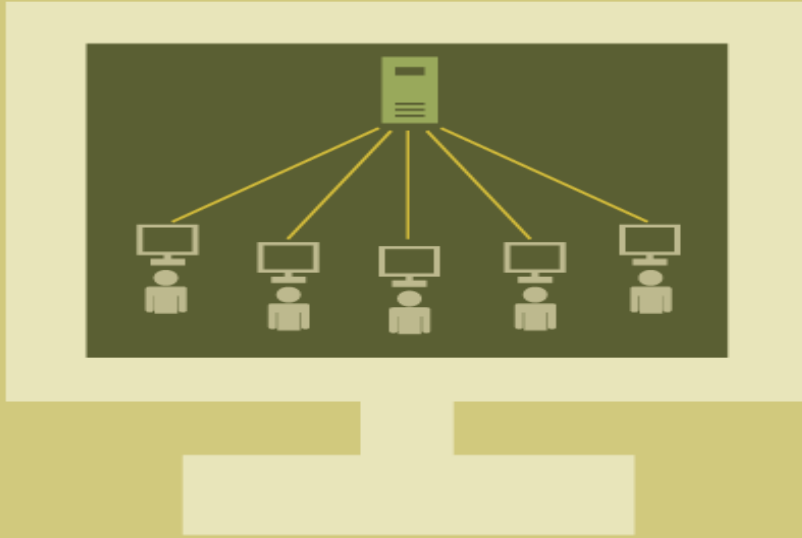
UNIVERSITIES LIKE MIT ALONG W/
CORPORATE RESEARCH GROUPS
SHARE CODE AS A MEANS OF
COOPERATIVE DEVELOPMENT

1979 **1982**



3 **400**

THE NUMBER OF SITES USING UNIX
INCREASED FROM 3 IN 1979 TO
400 IN 1982



CODE SHARING INCREASED WHEN
USENET WAS INTRODUCED, A PROGRAM
THAT LINKED UNIX & THE PROGRAMMING
COMMUNITY

 **Bell Laboratories**

↓

UNIX



UNIX WAS DEVELOPED BY BELL
LABORATORIES & INSTALLED
AT COLLEGES & RESEARCH
CENTERS FOR FREE



THESE INSTITUTIONS AND RESEARCH
CENTERS IMPROVED UPON UNIX AND SHARED
THEIR CODE WITH OTHERS

The Four Freedoms

A program is considered to be free software if and only if the program's user has the following freedoms:

- The freedom to run the program, for any purpose.
- The freedom to study how the program works, and change it so it does your computing as you wish. Access to the source code is precondition for this.
- The freedom to redistribute copies so you can help your neighbor.
- The freedom to distribute copies of your modified versions to others. By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is precondition for this.

Advantages of Open Source Software

- No cost or Lower cost for licensing "open source" solutions
 - Example : Linux can be installed for free, while Windows operating system can cost a lot
- Flexibility to adapt the software for particular solution
 - Program can be tailored for a specific use
- Continuous software enhancements available through the open source community.
 - Software bugs, security, etc. all can be improved and developed on by the community to improve performance and reliability

Disadvantages of Open Source

- No support exists for open source software
 - No phone or technician support available for majority of open source software
- No guarantee that development will happen
- There may be significant problems connected to intellectual property
 - Some countries accept software and algorithm patents. It is difficult to know if some particular method to solve a software problem is patented
- It is difficult to know that a project exists, and its current status
 - Not much advertising for open source software

Open Source is the Future

From the Open Source Business Conference (OSBC) on May 2012, the following was discovered:

- Open source is not just fueling innovation, but *leading* it.
 - Innovations such as cloud, big data, mobile apps and enterprise mobility
- Quality of open source is one of the top three reasons that make it attractive for use.
- More than 50 percent of software acquired in the next five years will be open source software.

Ethical Questions on Open Source

- According to Free Software Foundation, free software "is a matter of liberty, not price. To understand the concept, you should think of 'free' as in 'free speech' and not as in 'free beer.'"
 - Is there anything in the nature of software that would give people a right to it in the same way that we have a right to speech?
- Is it fair to expect software developers to create and distribute their intellectual property without restrictions while we do not expect the same from other inventors or producers?

Watermarks

By: Hitendra Pratap Singh

History

- Term “watermark” originated from German term “wassermarke”. [6]
- In 13th century, first paper watermarks appeared in Italy. [1]
- In 18th century, paper watermarks appeared in Europe and America. [6]
- “Identify the papermaker or the trade guild that manufactured the paper”. [1]



Fig. 1 [1]

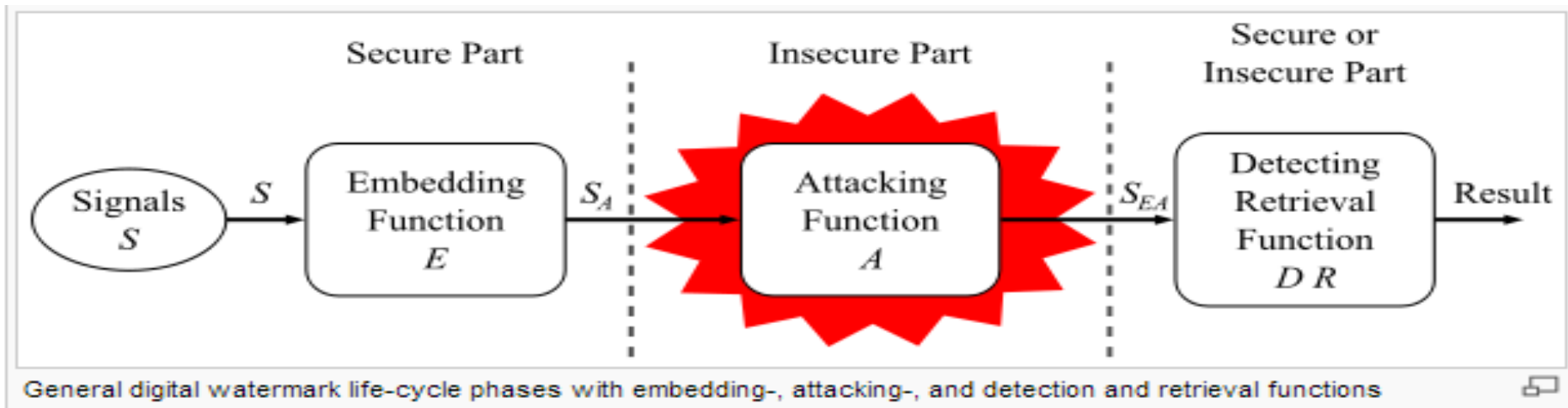
Watermark ?

- “Recognizable image or pattern in paper or document that appears when viewed in transmitted light”[2]
- Watermarking: “process of embedding information into a carrier signal “[2]
- Two types: [3]
 - True : paper manufacturing process
 - Artificial : printing process

Digital Watermarking

"Embedding the information in noisy tolerant signal"(audio, pictures, video, texts or 3D models) [4]

Fig. 2 [4]



Applications

- Owner identification
- Authentication and Integrity
- Security
- Fingerprinting
- Covert communication (Data hiding)
- Copy control (Recording and playback devices)

Reference [5][6][7][8]

Properties

- Robustness
- Temper resistance: Resistance to hostile attacks
 - Active
 - Passive
 - Forgery
- Computational cost
- False positive rate
- Data capacity

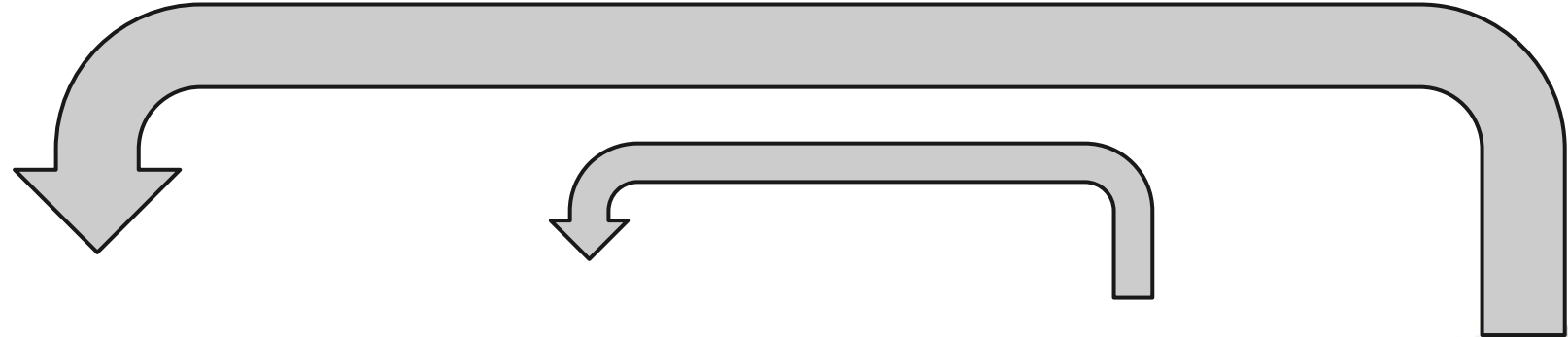
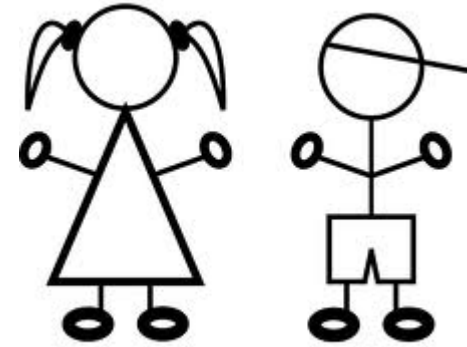
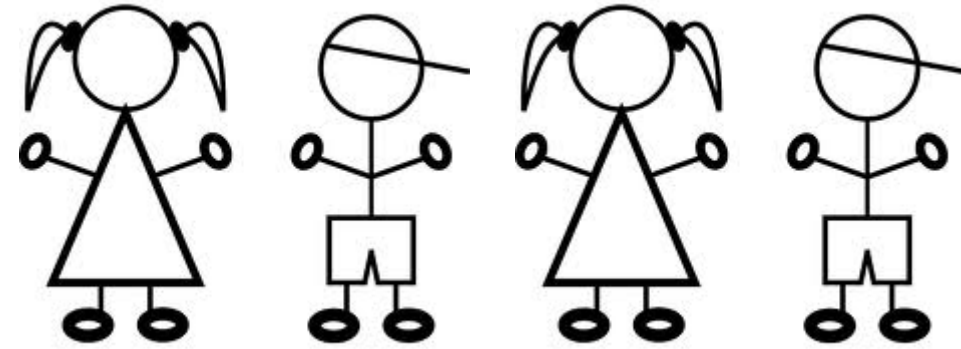
Reference [5][6][7][8]

Economy of Abundance

By: Edna Ramirez

Scarcity Reigns

We're living in a world where true value is placed on scarce resources. This is called "Economy of Scarcity". Where our economics system is based on finding value in nn things that can be sold at a high price thanks to demand exceeding supply.



New Crazy Economy Model

Economy of Abundance:

An economy where abundance reigns. Where true value are with goods that are unlimited. Where waste is good and encouraged. Where we can have it all as much as we want!

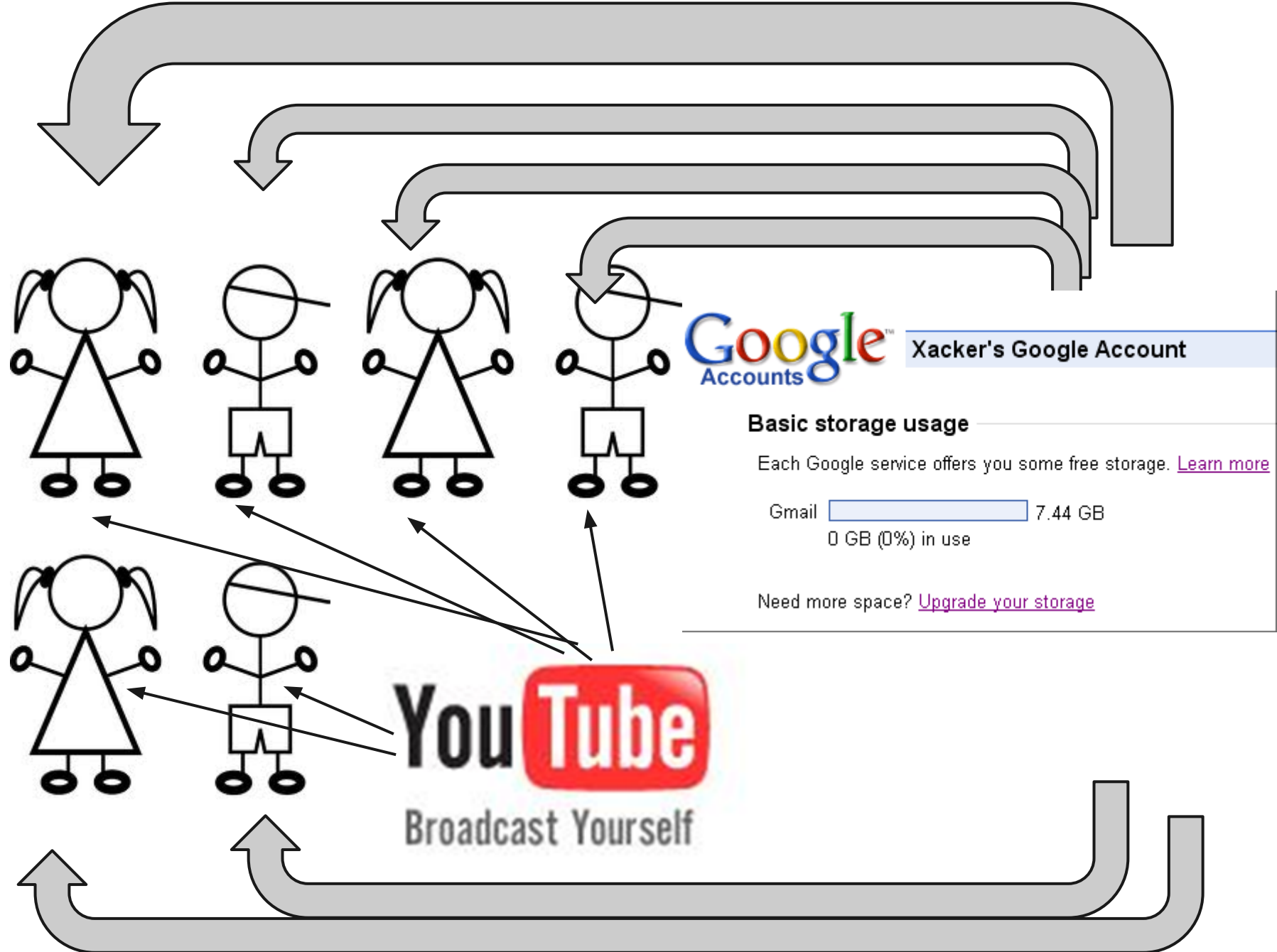
Is this even possible?



Of course it is!

The digital world shows us how an economy of abundance is possible. There is an abundance of:

- Bandwidth
- Storage
- Promotional/Media Options
- Online Shelf Space



Google
Accounts

Xacker's Google Account

Basic storage usage

Each Google service offers you some free storage. [Learn more](#)

Gmail 7.44 GB
0 GB (0%) in use

Need more space? [Upgrade your storage](#)

You Tube

Broadcast Yourself

Effects Of Abundance

- Brings the cost abundant goods to \$0.
- Will create new markets or scarcities
 - talents, merchandise, live shows etc
- Freedom from current institutions that control supply or demand in order to keep at a constant state of need
- Infinite Shelf-Space Effect
 - Cost of Production and Distribution Decreases

Summary

Scarcity

“Everything is forbidden unless it is permitted”

Abundance

“Everything is permitted unless it is forbidden”

Napster and File Sharing

By: Weston Neal

History of File Sharing

- 70s-90s: Bulletin Board Systems
 - Allows users to upload and download news, data, software and communicate through emails and message boards. In many ways BBSs were the precursors for today's forums.
- 90s-Present: FTP and FXP (Topsites)
 - Also known as Warez scene or The Scene which is a group of private and usually secretive FTP (File Transfer Protocol) sites and networks. They also use other protocols to distribute files.
- 70s-Present: Usenet
 - Similar to BBSs. Allowed users to read and post *articles*. There is no centralized server, instead the data is duplicated and stored on a group of servers. File sharing became popular in the 90s. Files were usually split into smaller archives to help combat file corruption as well as increase the transfer speed. This became possible through compression techniques like .RAR.

Music Becomes Portable

- 1996: MP3 is given US patent
- 1999: portable MP3 players emerge

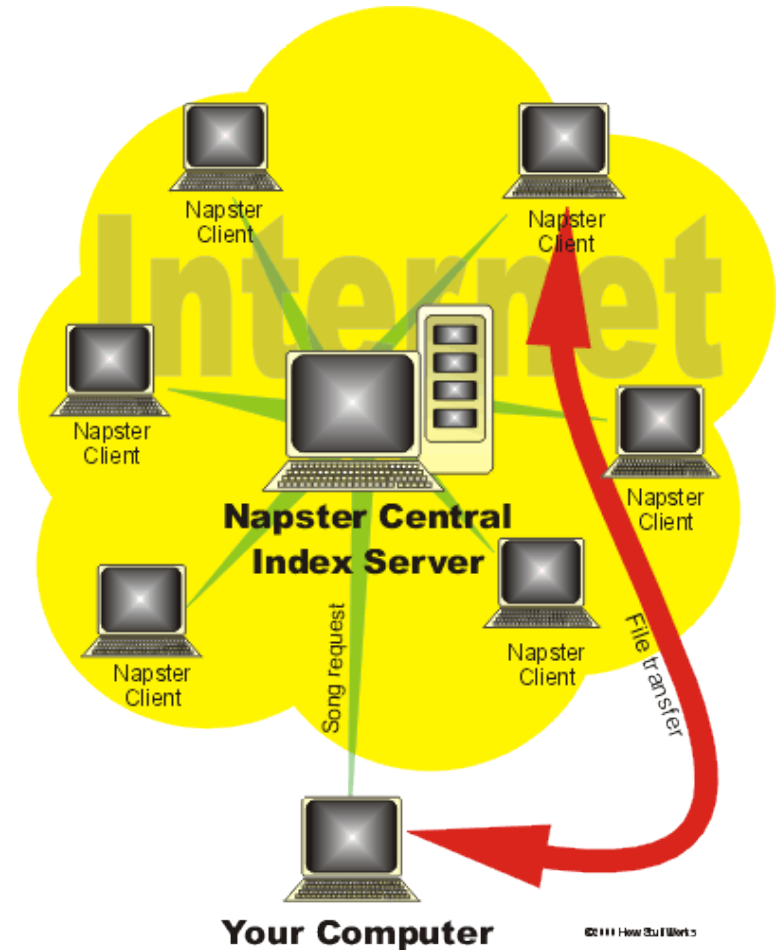
Portable and compressed music in the popular MP3 format and small digital players created a high demand for music that was previously impossible.

Napster

- Created by John Fanning, Shawn Fanning and Sean Parker as a music (MP3 distribution platform)
- Napster was built on the P2P logic or Peer to Peer.
 - Files are stored on the users computers and users are allowed to share files through a common application or interface.
- Operated between June 1999 and July 2001 when it was brought down due to legal issues.
- Centralized server and database that allowed users to search for files and chat using IRC protocols.
- At its peak Napster had 25 million users and 80 million songs.

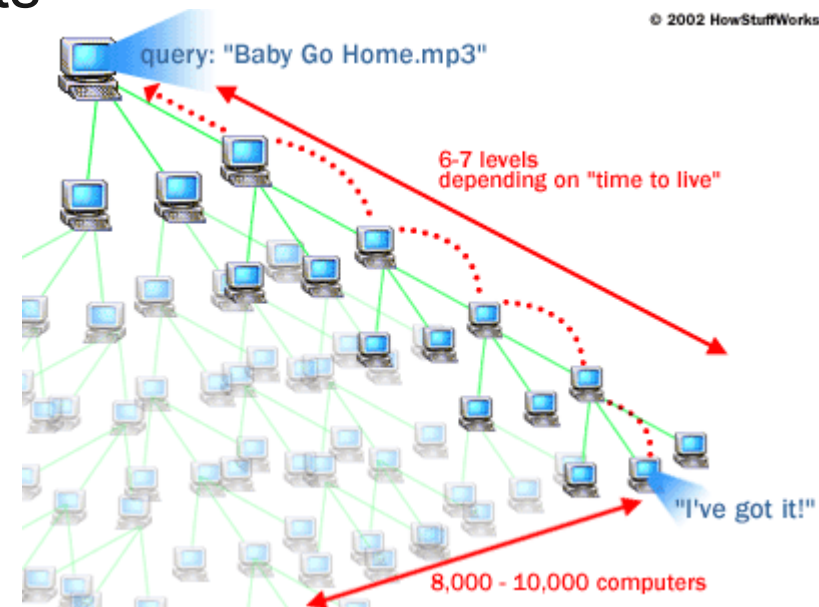
Napster's Downfall

- Napster introduced filesharing to the masses.
- Napster was ordered to shutdown because of it aided in the distribution of illegal content
- The centralized design of the database and server was the weak link.



Post-Napster Evolution

- After Napster's rise and fall other applications and protocols took its place.
- 2000-Present: Kazaa, Gnutella (Limewire client)
 - Kazaa was released early 2001
 - Semi-centralized design
- Gnutella was developed in early 2000 and released under the General Public License (GPL)
 - Decentralized Design (No centralized database)



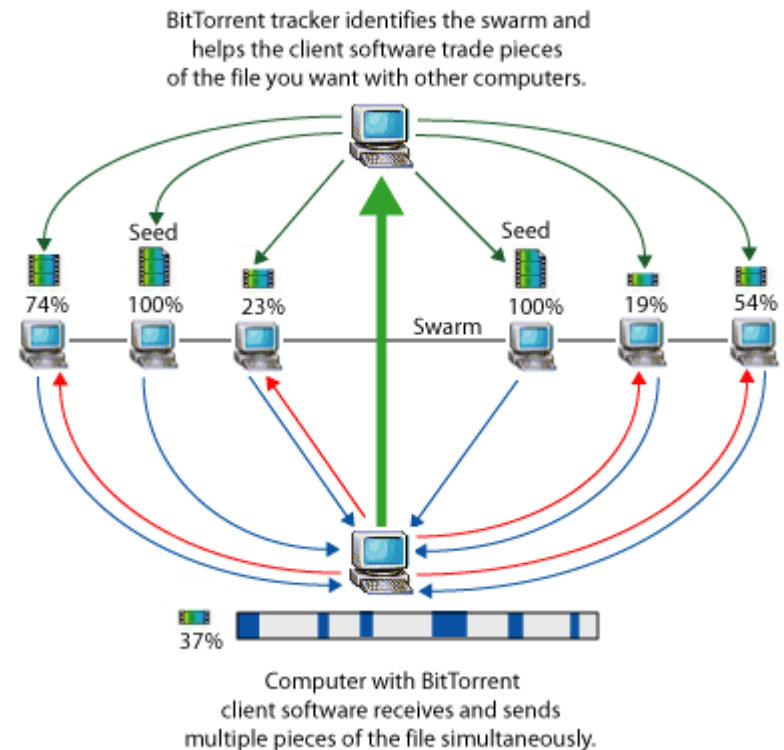
Post-Napster Evolution Cont.

- 2001-Present: Bittorrent

- Protocol designed by Bram Cohen
- µTorrent, Transmission, etc...
- A file is broken down into small chunks and is distributed by a decentralized peer-to-peer network.
- A user downloads a torrent file from a search site. The file contains metadata and a list of trackers.
- Today it is becoming more popular to obtain the target definition through a magnetic link.

- 2000-Present: Filelockers and Forums

- Megaupload, Rapidshare, etc
- File is uploaded to a server and is downloaded through HTTP(S). Links are shared through forum or blog postings.



Conclusion

Do you feel that copying a movie for backup is ethical and or constitutes fair use?

What are possible drawbacks of economy of abundance?

Could piracy possibly be thought of as a "marketing tool"?

Would there be a reasonable way to stop child pornography?

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