<table>
<thead>
<tr>
<th>Type of Technology</th>
<th>PC</th>
<th>iPhone</th>
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</thead>
<tbody>
<tr>
<td>Generative</td>
<td></td>
<td>Appliance</td>
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<tr>
<td>Type of Software</td>
<td>Open</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Type of Network</td>
<td>Anarchic</td>
<td>Controlled</td>
</tr>
</tbody>
</table>
Definition of Generativity

“… a system’s capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences…” (p. 70)
Features of a Generative System (pp. 71-73)

- Leverage
- Adaptability
- Ease of mastery
- Accessibility
- Transferability
Basic Propositions (Zittrain, p. 64)

- IT ecosystem functions best with generative technology at its core
- Generativity instigates a pattern both within and beyond the technological layers of the IT ecosystem
- Proponents of generative IT systems ignore the drawbacks attendant to generativity’s success at their peril
Layer Model

- Highest: Content
- Intermediate High: applications
- Intermediate Low: operating systems
- Lowest: physical
Advantages of Layers

- Engineers can tinker with one layer without necessarily affecting the other layers.
- Hourglass shape means that there is lots of room for innovation above and below the operating systems and protocols levels.
Problems with Generative Technologies and Anarchic Networks

- Malware: worms, viruses, trojan horses
- Incompatibilities in hardware and software which create difficulties for beginners (steep learning curves)
- Use by criminals, political extremists, hate mongers, pornographers, child molesters, cyberstalkers
- Vulnerability to cyber attacks of various kinds that go beyond malware (e.g. denial of service attacks, identity theft)
Identity Theft

- The blanket term for any type of crime wherein the offender uses another individual’s legitimate personal information to commit acts of fraud or deception, typically for illicit financial gain.

- Where a person’s identification details are obtained through various covert methods, from rifling through the contents of household dustbins to “phishing.”

- Phishing is a form of fraud where the criminal pretends to be a reputable organization that needs information about some business you may have done with them.
Identity Theft and Fraud

- Identity theft is not really a specific kind of fraud, but an act that leads a person to be able to commit fraud.

- Fraud generally is the attempt to convince for any reason that you are someone other than yourself.

FTC video on identity theft
Examples of Hate Speech on the Internet

- Nazis and Neo-Nazis
  - Sale of Nazi objects (involving EBay)
  - French policies (involving Yahoo based sales of Nazi stuff)

- Hate web sites
Three Areas of Law Relevant to the Politics of the Internet

- Intellectual property
- Privacy
- Free speech
Intellectual Property

- Patents, copyrights, trademarks, etc.
- Previous examples of technological change that made copyright laws necessary:
  - Printing press
  - Xerox machines
  - VHS and Beta recorders
How Intellectual Property Differs from Other Forms of Private Property

- Granted only to create an incentive for authors and other innovators
- Does not imply “perfect control”
- Important exceptions to perfect control:
  - Fair use
  - First sale rules (right to resell copyrighted material)
  - Limited term (not allowed to extend copyright beyond time limit)
Fair Use: The Betamax Case

- Company was not liable for creating a technology that some customers may use for copyright infringing purposes, so long as the technology is capable of substantial non-infringing uses
Digital Rights Management

- **Digital Millennium Copyright Act (DMCA) of 1998**
- **Inducing Infringement of Copyrights Act of 2004 (S. 2560)**
- Fear of file-sharing (RIAA and MPAA vs. Napster, Kazaa, Grokster, Gnutella)
- **Family Entertainment and Copyright Act of 2005**
- The Broadcast Flag Issue
Napster

- Napster was one of the first systems to utilize on a large scale the peer to peer model of sharing files. Peer to peer sharing occurs when computer networks use the bandwidth from the peers that are logged on, rather than using a relatively low number of servers to share content files containing audio, video, data etc.

- Many peer to peer networks are client server based, which alludes to the fact that a central server tends to run middle communications in between the client, or user, and the server.
Fair Use as Applied to File Sharing: Napster

- Copyright Infringement Lawsuit filed by RIAA in 1999
- Ninth circuit court issued an injunction ordering Napster to shut down the site
- Site shut down in July 2001
Relying on the Betamax decision, the Ninth Circuit ruled that the distributors of *Grokster* and Morpheus P2P file-sharing software cannot be held liable for users' copyright violations.

Supreme Court set aside this decision, but did not overturn the Betamax decision.

Grokster shut down in 2005.
How Torrents Work

Torrents are peer to peer networks where all files are decentralized when downloading and uploading. So, for example, if I wanted to download a Led Zeppelin song or album for that matter, I would type in what I am looking for on a website where torrents are hosted. Then I would have options of which songs, albums, videos, etc. I would like to download. Then I click the download now button, and if I possess the software to do so, which is free, and is offered on a number of torrent websites, and then it will begin to download. The following diagram helps to understand this abstract idea.
as you are downloading this Led Zeppelin song, or whatever you would like to download, other users can simultaneously download what you have completed of the Led Zeppelin file even if it is not fully completed. When another user is downloading a piece of one of your files, you become a seeder, essentially the place where the original file exists, or the seed. Seeing as this is an important concept, another diagram illustrating a user’s dual nature within each network is necessary.
The Attack on BitTorrents

- October 2006 conviction of Grant Stanley of Elite Torrents for conspiracy to commit copyright infringement under the Family Entertainment and Copyright Act of 2005