CGS 3092 Possible Areas for Paper & Presentation Topics

The following list includes some areas that may be <u>a starting point</u> for your search for a topic for your paper and presentation. Many of these topics are quite broad, so you should focus on one specific subtopic. You are not limited to this list – you are encouraged to suggest a new topic in your proposal. Your topic must be approved by the instructor.

You will find research and news articles in Moodle that you can use, in addition to your own research efforts. If you are having difficulty finding resources, contact the instructor for assistance.

Intellectual Property Issues

- Stop Online Piracy Act (SOPA) and PROTECT IP Act (PIPA)
- "Mash ups" of copyrighted material on YouTube (fake movie trailers, music mash ups, etc.)
- Copyright infringement by open source software: http://adtmag.com/article.aspx?id=20654
- IBM opens its software patent information for the purposes of interoperability: http://blogs.spectrum.ieee.org/tech_talk/2007/07/ibm_opens_its_software_patent.html
- Ownership in virtual worlds, plus ecommerce of virtual goods: http://www.washingtonpost.com/wp-dyn/content/article/2006/12/25/AR2006122500635.html. Are virtual goods a form of intellectual property?
- Digital rights management:
  - o Music and video downloads
  - o DRM vs. piracy issues
- Software piracy – why is it widespread, what are the ethically flawed justifications people use for this?
  - o Illegal downloads
  - o Illegal use of licenses (academic versions, softlifting, etc.)
- Japanese Anime: Fan Distribution, Copyright, and the Explosive Growth of Japanese Animation: Japanese animation growth is directly related to the proselytization of fans who worked to grow interest in America, despite flagging interest by Japanese copyright holders. A significant case spanning two decades in which commerce and the arts were significantly boosted through the continual violation of copyright.
- Reverse engineering of software products
  - o Is it ever ethical?
  - o For products no longer sold or supported?
  - o For national security purposes?
- The Free Software Movement (Richard Stallman)
  - o Would this eliminate piracy issues?
  - o What other consequences would it have on innovation and product creation?
- Open Source vs. Proprietary software
  - o Copyright infringement by open source software: http://adtmag.com/article.aspx?id=20654
  - o Microsoft vs. Unix/Linux – charges of copyright infringement
  - o What other consequences will it have on innovation and product creation?
  - o Is it more secure? http://www.technologyreview.com/Infotech/20801/?a=f and http://www.internetnews.com/security/article.php/3747961
- Cybersquatting, typosquatting, and domain names that are misleadingly similar to trademarked names
- Technology patent issues
  - o Software patents: what should and should not be patentable in software?
    - ▪ Blackboard: granted a patent that covers a single person having multiple roles in an LMS: for example, a TA might be a student in one class and an instructor in another.
    - ▪ Amazon.com sued Barnes & Noble for violating its "One click buy" but the case was ultimately settled

- o Patent trolls: companies that either purchase or file for patents that cover technology or ideas that have been openly used in the marketplace; patent trolls then come along and demand large licensing fees
  - ▪ Example: http://www.multichannel.com/article/CA6532982.html
- o 3D printing will allow consumers o copy and create new 3D objects at home. How will patent protection change in response to this threat? http://www.networkworld.com/news/2010/111010-3d-printing-may-bring-legal.html

Privacy issues

- Chinese government surveillance of citizens
  - o China – tracking its residents: http://news.com.com/In+China%2C+a+high-tech+plan+to+track+people/2100-1028_3-6202080.html?tag=nefd.top
- U.S. Government surveillance of citizens:
  - o FBI's Carnivore Internet wiretapping system: http://www.wired.com/politics/law/news/2007/07/fbi_spyware
  - o FBI's spyware tracks source of email threats: http://www.wired.com/politics/law/news/2007/07/fbi_spyware
  - o FBI Magic Lantern – part of Cyber Knight – Keylogger and Trojan for eavesdropping http://www.freerepublic.com/focus/fr/577501/posts
  - o MATRIX surveillance system http://www.aclu.org/privacy/spying/15722prs20031030.html
  - o Pentagon's Total Information Awareness (TIA) program http://www.aclu.org/privacy/spying/14956res20040116.html and http://www.computer.org/portal/site/security/menuitem.6f7b2414551cb84651286b108bcd45f3/index.jsp?&pName=security_level1_article&TheCat=1015&path=security/2006/v4n6&file=popp.xml&;jsessionid=GHsDvQS19CTsCCQSC0tSVvP9LXWmX06fFR16NphnQhhjbRLTHmyg!-784803638
  - o Homeland Security's Project Hostile Intent: http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9055198&intsrc=hm_ts_head
  - o Other government databases: http://www.msnbc.msn.com/id/19702310/
  - o Collecting biometric information in public places (Tampa arena face scans during Superbowl)
  - o TSA airport full-body scanners
- Is privacy on the Internet a right or a privilege?
- ISP rights and responsibilities re privacy vs. law enforcement
- Can the use of cryptography in communications lead to cyberanarchy? http://www-swiss.ai.mit.edu/6.805/readings-crypto.html#cryptoanarchy; BlackNet: http://swissnet.ai.mit.edu/6805/articles/crypto/cypherpunks/blacknet.txt
- Collecting biometric information
  - o as a requirement for admission to an event (Tampa arena face scans, Disney fingerprint scans, etc.)
  - o used for determining eligibility for insurance
  - o used by potential employers
- Workplace:
  - o Do you have a right to privacy in the workplace regarding email, voicemail, phone calls, etc. during business hours? After hours? Using company-supplied equipment?
- Computer privacy: Computer Technicians and Objectionable Files on Company or Personal Computers: Under what circumstances is it either permissible or required for a computer technician repairing a computer to report the contents of files (such as pornography or terrorist-related info) inadvertently found there?
- FaceBook, MySpace, Google+:

- o Is the expectation of privacy invalidated by the voluntary sharing of PII (personally identifiable information) on these social networking sites?
  - o Is the use of data from these sites for commercial marketing purposes ethical?
- Google and privacy: Google CEO says change your name to eradicate potentially reputation-damaging search records that Google keeps: http://www.newsmax.com/InsideCover/Google--Change--Name--Escape--Cyber--Past/2010/08/19/id/367899
  - o Google search - cookies
  - o Gmail
  - o Adsense/DoubleClick
  - o Google Earth
  - o Government requests for Google information on your surfing habits
  - o Google in China
  - o Buzz
  - o Google Street View
  - o Google+
- Sensors in public spaces vs privacy issues
  - o Surveillance cameras (e.g., facial scanning at Tampa's football stadium)
  - o RFID
  - o GPS/Geolocation technologies
    - ▪ Continual tracking of your movements – who has access to this data
    - ▪ iPhone geolocation tracking
  - o Biometrics in public places
  - o Airport full body scanners: are images saved?
- RFID-embedded items
  - o High-tech garbage trash cans will tell if you are recycling: http://blog.cleveland.com/metro/2010/08/city_of_cleveland_to_use_high-.html
  - o Clothing, shoes, & cash: http://news.cnet.com/2010-1069-980325.html
  - o Automated toll collection systems
  - o Electronic pickpocketing: http://www.wreg.com/videobeta/?watchId=8ba6f8fc-90a2-4711-90ea-1884ec348310
    - ▪ Response from credit card issuers: http://www.wreg.com/news/wreg-credit-response-,0,3199734.acrobat
- GPS-enabled devices – a violation of privacy?
  - o On-Star service
  - o in rental cars, commercial vehicles
  - o Embedded GPS chip in sneakers: http://www.cnn.com/2007/TECH/ptech/02/13/gps.sneaker.ap/index.html
  - o GPS location capability in cell phones: a life-saver in emergencies, or an invasion of privacy?
  - o Geotags on photos and videos http://www.nytimes.com/2010/08/12/technology/personaltech/12basics.html?_r=4
- Targeted marketing based on data mining of salaries, purchase history, etc. ("I Know You Want It")
  - o Potential abuses: Will it result in different pricing for different customers based on ability to pay?
  - o Potential benefits: access to exactly the items that interest you with less effort on your part
- Deep packet inspection at the ISP level: a privacy issue?
  - o Example: Phorm and British Telecom
  - o Invalidates Net Neutrality
  - o ISPs need to do this for "traffic shaping"?
- Electronic data recorders (black box) in vehicles: should insurance companies have access to this data to determine your policy rates? Should law enforcement be allowed to issue citations based on the data
- Electronic Medical Records – who will have access? How accurate will they be? How you will get corrections made?

- Under-considered side effects of some technologies: http://www.antipope.org/charlie/blog-static/2007/05/shaping_the_future.html
    - Lifelogs and the end of privacy as we know
    - Reality-mining: wearable sensors that collect fine-grained data about your behavior and physical state: http://cacm.acm.org/magazines/2010/8/96621-making-sense-of-real-time-behavior/fulltext
- Traitorware: Software and/or devices that act behind your back to betray your privacy https://www.eff.org/deeplinks/2010/12/what-traitorware

First Amendment Rights

- First Amendment Rights of freedom of speech, freedom of press, freedom of assembly - how can (or should) they be applied to:
    - Internet Pornography
    - Censorship/censorware (e.g., public libraries)
    - Cryptography
    - Cyberhate
    - Spam
    - Scareware: software that pressures the user into buying software or a service, typically via alarming pop-up messages
- Bloggers: should they be considered journalists with the same legal protections to protect their sources of information?
- Should doctors and other professionals be allowed to require you to sign agreements that bar your ability to post negative comments on review sites? http://arstechnica.com/web/news/2009/03/doctors-try-to-silence-negative-reviews-from-patients.ars
- Are citizens allowed to record police officers on duty? Is this a safety issue?

Fourth Amendment Rights

- 4th Amendment rights against search and seizure: how can or should they be applied to
    - Logging of network activity
    - Logging of web surfing activity
    - Retention of email/chat messages
    - Seizure of cameras or cell phones used to record police officers on duty

Legal and Social Issues in Virtual Worlds

- Sovereignty on the Internet versus cyberanarchy
    - Getting accurate information – consider blogs, freelancers
    - Collaborative information: Wikipedia and the possibility of spin, defamation, etc.
    - Democracy (or benevolent oligarchy) in cyberspace governance
- Second life: Blurred boundaries between virtual worlds and real life
    - "marrying" someone else in your virtual life: http://online.wsj.com/public/article/SB118670164592393622.html
    - Virtual adultery: http://abclocal.go.com/wabc/story?section=sci_tech&id=5563898
    - Alter egos: http://online.wsj.com/article/SB118652571962490938.html?mod=Technology
- Crime in virtual worlds: http://blogs.spectrum.ieee.org/gizmos/2007/11/virtual_crime.htm

Professional/Programmer Ethics & Responsibilities

- Is it ethical to violate standards of ethics for counterintelligence or national security purposes
    - Providing incorrect code to USSR during the Cold War

- o Providing incorrect plans for constructing nuclear weapons
- o Hacking for national security purposes
- o Cyberwarfare: viruses to destroy an enemy's communication ability?
  http://www.pcworld.com/article/id,132284-pg,1/article.html
- o Stuxnet worm:
  http://www.pcworld.com/businesscenter/article/205827/was_stuxnet_built_to_attack_irans_nuclear_program.html
- Is hacking ever ethical?
  - o For national security purposes?
  - o During criminal investigations?
  - o Life and death emergencies?
  - o Shutting down objectionable web sites?
  - o Retrieving information posted by a now-deceased loved one?
  - o Tax authorities use web spiders - Xenox:
    http://www.wired.com/news/technology/security/0,72564-0.html?tw=wn_index_1
  - o The ethics of teaching university students to hack
  - o Automatic removal of malware from zombie computers
- Do programmers have responsibility for how their code is used?
  - o Writing software for advanced technology weapons that will be used to kill others
  - o The ethics of biowarfare: http://www.actionbioscience.org/newfrontiers/reyes.html
  - o Writing software used by NSA, CIA, etc., for surveillance purposes
  - o Writing software for advanced medical devices
  - o Writing software for critical infrastructure (water systems, traffic systems, dams, electrical grids, bridge tending, banking/financial, ports, etc.)
  - o Unintended uses of the software (e.g., BitTorrent)
- Software and Critical Public Infrastructure: Intellectual Property Rights vs. National Security
  - o Software contract disputes vs. public infrastructure: Giant Robot Imprisons Parked Cars:
    http://www.wired.com/cars/coolwheels/news/2006/08/71554
  - o Threats to critical public infrastructure software
- What are a computing professional's responsibilities for
  - o Refusing to implement buggy or flawed code?
  - o Refusing to implement unworkable architectures?
  - o Refusing to install unlicensed software? Incorrect licenses?
- Collaboration with governments (at any level) for surveillance – is it ethical?
  - o Google in China
  - o Proposed bounty system for catching virus/worm authors/perpetrators
- Ethics of Scambaiting: you enter into a dialogue with scammers (such as the Nigerian scam), simply to waste their time and resources, potentially helping to keep the scammers away from real potential victims.
  http://www.419eater.com/
- Concept of trespassing in cyberspace – what does it involve?
  - o Hacking of web sites, hactivism
- Internet/email rating and blocking schemes
  - o Black-listing, white-listing
- Original Hacker Code of Ethics – is it relevant today?
- Computer-based or console games
  - o Developer ethics: Do the games teach ethics, even if unintentionally? (Grand Theft Auto, Sims Online, World of Warcraft, Fat Princess, Super Columbine Massacre RPG, RapeLay http://www.slate.com/id/2213073/, Medal of Honor – be a Taliban)
  - o Player ethics: Ethical/unethical behavior of game players – cheats, hacks, purchasing levels, ganging up on newbs, etc.
  - o Addiction aspect of computer-based/console games:

- - Since addicts of any nature are usually not productive citizens, but rather consume social services, should the government step in?
    - NCSoft sued for making Lineage II too addicting: http://www.massively.com/2010/08/20/ncsoft-sued-for-making-lineage-ii-too-darned-addicting/
- Cyberloafing, private transactions during work hours: Do the breaks increase productivity, or are employees working less for the company than ever before?
- White worms (infecting a computer with a worm that attempts to stop/remove a malicious worm):
  - Whelchia worm
  - Kraken Botnet infiltration by security firm triggers ethical debate over whether to clean infected computers: http://www.eweek.com/c/a/Security/Kraken-Botnet-Infiltration-Triggers-Ethics-Debate/
  - http://usenix.net/publications/login/2006-12/pdfs/weaver.pdf
- Software for Critical Medical Systems
  - Project management issues – how much testing is enough?
  - Release schedule pressure vs. quality of software
- Programmed stock trading: Does it cause larger/faster market swings? Does it disadvantage the individual stock trader?

Technology and Human Enhancement

- Cyborgs:
  - Human Enhancement Technologies & Human Rights: http://ieet.org/index.php/IEET/HETHR
    - Should athletes with bioengineered limbs be allowed into the Olympics?
    - World Transhumanist Association: http://www.transhumanism.org/index.php/WTA/index/
    - The next reality show? "Pimp my chromosomes"?? http://www.humanupgrades.com/
  - Military use of bioengineered animals and insects – is this ethical: http://technology.timesonline.co.uk/tol/news/tech_and_web/article1831494.ece http://www.livescience.com/technology/060307_shark_implant.html
  - Korean Army's Cyborg soldiers to patrol the border: http://english.chosun.com/w21data/html/news/200705/200705230023.html
- Technological Singularity: when robots or machines surpass human intelligence:
  - Yes: http://spectrum.ieee.org/singularity
  - No: http://www.spectrum.ieee.org/jun08/6280
  - Economics of the singularity: http://www.spectrum.ieee.org/jun08/6274

Anonymity issues

- Anonymity on the Internet:
  - Does anonymity on the Internet help preserve your rights?
  - Does anonymity on the Internet expose you to danger because you cannot identify those with whom you are interacting?
- Anonymity in virtual worlds – is this different? Is it desirable?
- Fake identities: http://www.fakenamegenerator.com/
- Fake Twitter accounts: when someone pretends to be a celebrity. Issues of IP, possible libel?
- WikiLeaks contributors: anonymity aids whistleblowers, but does it protect illegal actions as well?

Other Legal and/or Social Issues

- Kill switches – giving one device authority over others: Who should have the authority to remotely disable devices?
  - Examples: Using OnStar to remotely disable autos; Microsoft's Digital Manners patent for setting cell phones to vibrate mode in restaurants and concert halls (or turn off completely in hospitals and

airplanes); prohibiting camera usage in museums and recording devices in theaters; prevent students from texting during class

- Cell phone and GPS Jammers & Kill Switches:
  - In China http://www.chinavasion.com/index.php/cName/security-equipment-jammers/
  - San Francisco Summer 2011
- Are there any trusted sources of information?
  - Starsuckers documentary: http://www.bfi.org.uk/lff/node/495   Illustrates how truth has become devalued by the modern news media; reveals some immoral, corrupt and illegal practices employed by some of the biggest names in the entertainment industry, who collect, create or bury stories for a price.
  - Media Bias is real, finds UCLA Political Scientist: http://newsroom.ucla.edu/portal/ucla/Media-Bias-Is-Real-Finds-UCLA-6664.aspx
- Net Neutrality: should all packets be equal?
  - Should ISPs be allowed to determine which types of packets get priority?
    - Will they abuse this to favor their own add-on services such as VoIP?
    - Comcast using it to block torrent downloading
  - RIAA wants Net Neutrality to include filtering