

Privacy

Lecture 5-2

Computers & Society (CPSC 430)

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<https://www.cs.ubc.ca/~kevinlb/teaching/cs430>

Ways Information Becomes Public

- Rewards or loyalty programs
- Body scanners
- Digital video recorders
- Automobile “black boxes”
- Enhanced 911 service
- RFIDs
- Implanted chips
- Cookies
- Spyware



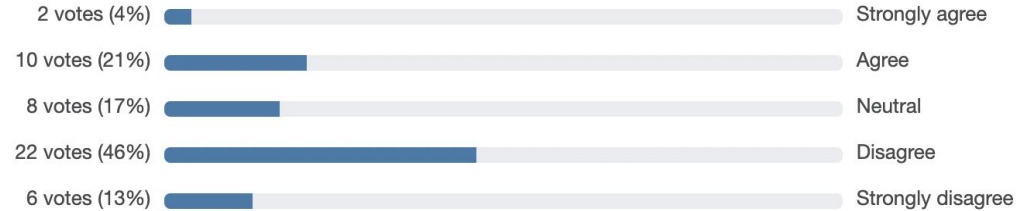
...can you think of others?

Information Privacy

“It should be illegal for shopping malls to install cameras for tracking customer behavior.”

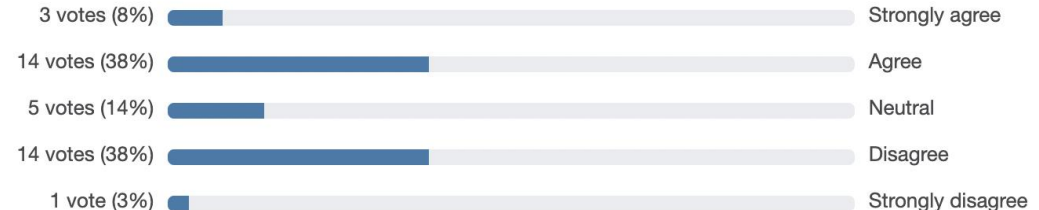
Section 101

A total of 48 voter(s) in 962 hours



Section 102

A total of 37 voter(s) in 962 hours



Data Mining

- **Data mining**
 - Searching for patterns or relationships in one or more databases
 - This info typically provided by the customer for another purpose
- **Many internet services provided as an opportunity to gather valuable data**
 - Google; Facebook; free online courses
- **Also performed by the government**
 - Efforts to detect terrorism via phone, bank, travel records
 - Tax audits
- **Questions:**
 - *Ownership: do you have any rights over info about transactions in which you participated?*
 - *Ethics: what data mining activities are unethical? Which are ethical?*
 - *Does it make a difference whether DM is opt-in or opt-out?*
 - *At what point does DM become “creepy”?*
 - *Should we worry about ending up in a “personalization bubble”?*

"On our watch"

This Italian movie, released in 2021, explores (satirically) the dangers of machine learning and data mining in the hands of powerful tech giants



<https://www.youtube.com/watch?v=u50KHs1PXfM>

Open Source

- **A variety of licenses. Some typical ingredients:**
 - No restrictions preventing others from selling or giving away software
 - Source code included in distribution
 - No restrictions preventing others from modifying source code
 - No restrictions regarding how people can use software
 - Same rights apply to everyone receiving redistributions of the software (copyleft)
- **GNU Project (Richard Stallman, 1984-)**
 - Goal: Develop open-source, Unix-like operating system
 - Most components developed in late 1980s
- **Linux**
 - Linus Torvalds wrote Unix-like kernel in 1991
 - Combined with GNU components to make an OS
 - putting pressure on Microsoft, Apple, and companies selling proprietary versions of Unix

Benefits and Drawbacks of Open Source

- **Benefits**

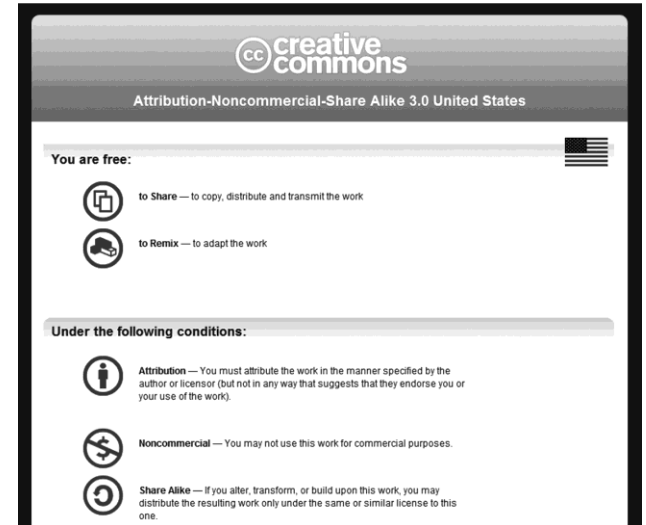
- Gives everyone opportunity to improve program
- New versions of programs appear more frequently
- Eliminates tension between obeying law and helping others
- Programs belong to entire community
- Shifts focus from manufacturing to service

- **Drawbacks**

- Without critical mass of developers, quality can be poor
- Without an “owner,” incompatible versions can arise
- Relatively weak graphical user interfaces
- Poor mechanism for stimulating innovation (no companies will spend billions on new programs)

Creative Commons

- Under current copyright law, eligible works are copyrighted the moment they are created
- No copyright notice does not mean it's ok to copy
- Must contact people before using work
- That slows down creative reuse
- Free Creative Commons license indicates
 - Which kinds of copying are ok
 - Which rights are being retained
- Flickr and Magnatune two well-known sites using Creative Commons licenses



Safe Software Development

- Reverse engineering okay
- Companies must protect against unconscious copying
- Solution: “clean room” software development strategy
 - Team 1 analyzes competitor’s program and writes specification
 - Team 2 uses specification to develop software
- Interestingly, same development strategies also used to ensure that open source licenses don’t “infect” commercial software