

Teaching ethics and society issues for students in information systems or computer science

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My background

- ❑ PhD in computer science. University lecturer in information systems.
- ❑ Work experience mostly in teaching computer science and information systems. Has also been a university librarian.
- ❑ Ham Radio, voluntary rescue services...
- ❑ Involvement in free software, Linux, etc...
- ❑ Has always been interested in society issues, as well as technology.

Nord University

- Merger of University of Nordland, Nesna University College and Nord Trøndelag University College



Agenda



Why ethics & society issues?

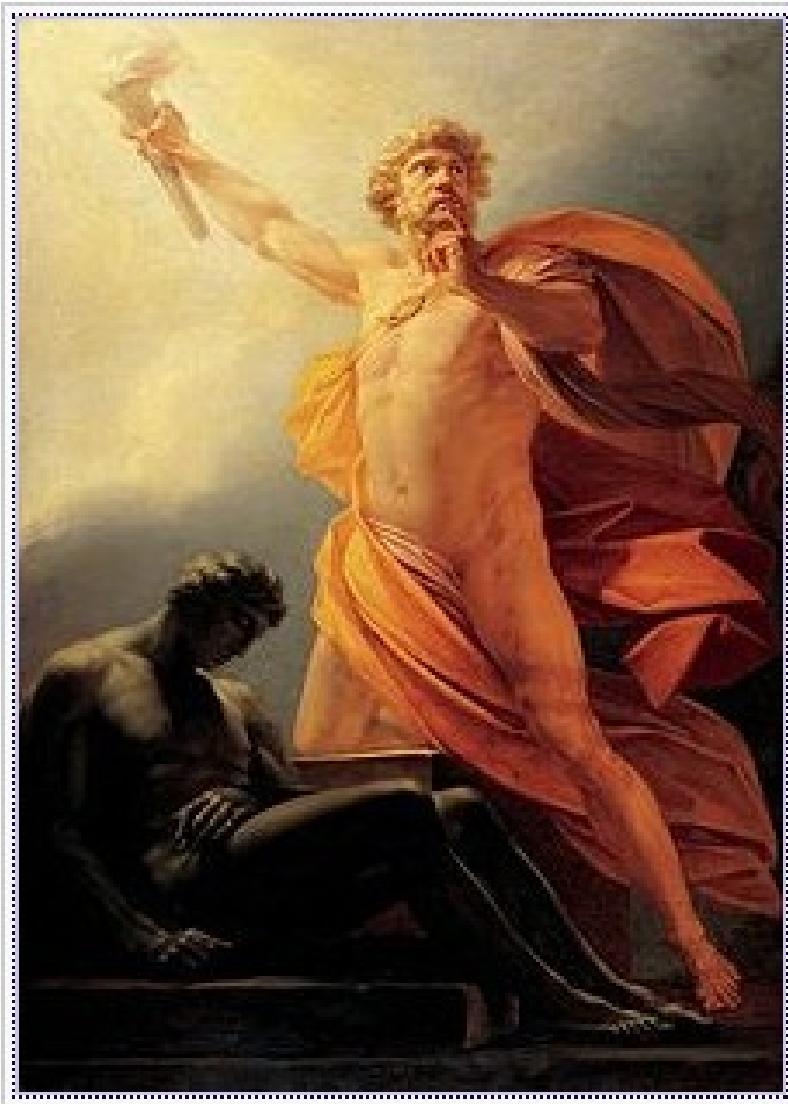
- Computer science? Information systems? Is there a difference?
- Examen philosophicum?

□ How?

- What topics should be focused on? How to teach? Early/late? Base on Ex. Phil?

□ My experiences

- Course: Ethics and IT professionalism.
 - ★ Focus. Topics. Teaching method.
 - ★ Positive feedback from students.
 - ★ Merger into Nord University led to changes



“A gift of fire”

- ❑ Greek mythology says Prometheus gave us fire
- ❑ A gift that can do us good but also do us much harm
- ❑ “As with fire, computers help us saving lives, but also creates powerful problems”

Why?

- ❑ Future technologists, technology leaders
 - Be aware and able to critically reflect over what we are doing.
 - What does “*professionalism*” mean?
- ❑ Examen Philosophicum.
 - A standard part of university curricula
 - Does Ex. Phil. pretty much cover it?
 - Do we need a more “applied” approach?
- ❑ Computer ethics *instead of or in addition to* Ex. Phil?
- ❑ Difference between *computer science* and *information systems* curricula.

How?

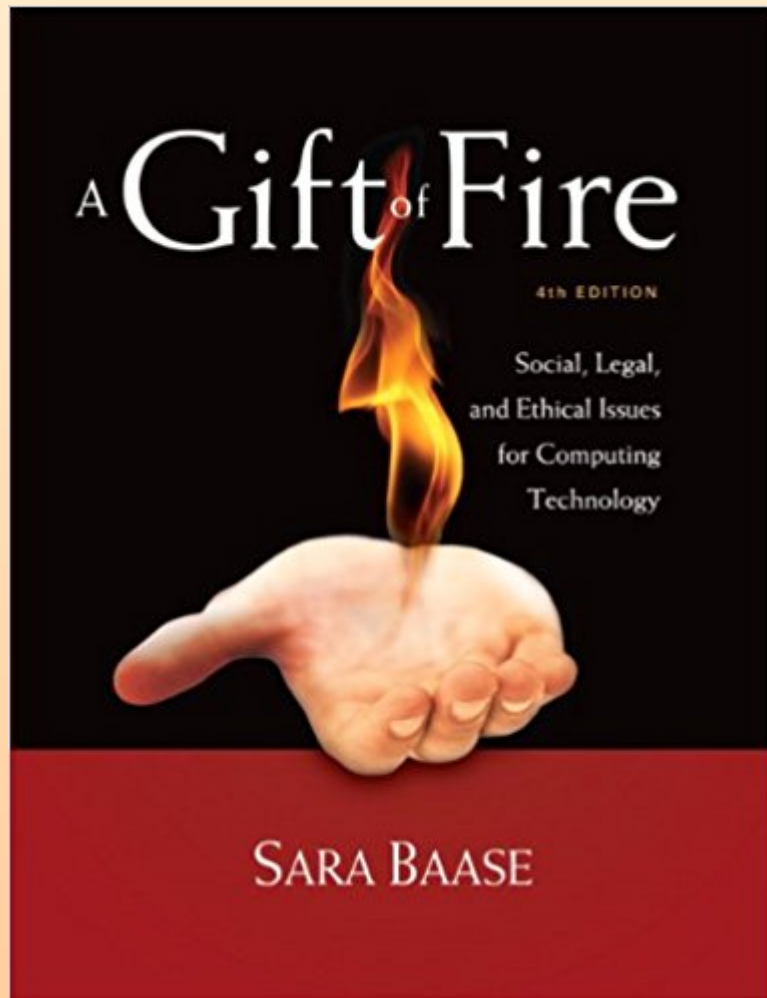
- ❑ What topics to focus on?
 - How much theory (philosophy, ethics?). How much practical cases?
- ❑ Teaching method
 - Lecturing?
- ❑ Early or late?
 - Part of an introductory course?
 - Before or after Ex. Phil? Instead of Ex. Phil?

Ethics and IT professionalism

- ❑ Nesna University College: Part of bachelor in information systems
 - First term course. Instead of Ex. Phil.
 - Lectures. Portfolio exam.
 - I inherited this course in 2013.

- ❑ Topics
 - Introduction: Information technology development, ethics theory.
 - Privacy.
 - Freedom of speech.
 - Intellectual property rights. Patents, copyright, etc..
 - Hacktivism, cybercrime and cyberwarfare, etc..
 - Other topics: Digital divide, accessibility, open standards.

Litterature



- ❑ Gift of Fire textbook
- ❑ Articles, legislation, etc.
- ❑ Documents from Norwegian data inspectorate, etc...

Topic 1: Introduction

- The pace of (technological) change
 - Computers are ubiquitous.
 - Trends: Web, social media, smartphones, AI, big-data, how things changes, impact on society.
 - Moore's law, the Turing test, etc...
- Introduction to ethics
 - What is ethics about?
 - Ethics vs. law.
 - Human rights, constitutional rights
 - Ethical theories.
 - Deontology vs consequentialism and utilitarianism
 - Relativism vs. absolutism
 - Negative freedoms vs. positive freedoms

The Pace of Change

“In a way not seen since Gutenberg's printing press that ended the Dark Ages and ignited the Renaissance, the microchip is an epochal technology with unimaginably far-reaching economic, social, and political consequences.”

- Michael Rothschild

Assignments

- ❑ Deontology, utilitarianism, Kant's categorical imperative
- ❑ Is it in some situations not wrong to lie?
 - Apply the different theories.
- ❑ Should lethal autonomous weapons be banned?
 - Pro & contra discussions.
 - CACM December 2015.

Topic 2: Privacy

- ❑ What is privacy?
 - Privacy is a constitutional right. Human right!
- ❑ Challenges/threats against privacy
 - Private sector: Commercial and social systems. Marketing, social media.
 - Public sector: Government
- ❑ Protection
 - Legislation
 - Market and technology (e.g. encryption)
- ❑ Examples
- ❑ What is “fair play”?

Assignments

- What was the EU data retention directive about? Why was it so controversial? Why was it stopped?

Topic 3: Freedom of speech

- ❑ What is freedom of speech?
 - Why freedom of speech/freedom of information?
 - Freedom of speech/information is a constitutional right. Human rights!
- ❑ Limitations to freedom of speech
 - Privacy, intellectual property, hate-speech, threats, etc...
 - Legislation
- ❑ Freedom of press, press-ethics and related legislation
- ❑ Freedom of speech and censorship on the internet
- ❑ Anonymity and whistleblowing
- ❑ Net neutrality
- ❑ Many, many examples....

Assignments

- ❑ Hate propaganda on net forums. Whoses responsibility?
- ❑ Anonymity: Pro & con?

Topic 4: Intellectual property

- ❑ Copyright
 - What is copyrighted and what is not
 - Legislation, Fair use, DMCA
 - Copyright and the internet. What is legal and what is not?
- ❑ Enforcement mechanisms (DRM)
- ❑ Patents
- ❑ Open Access, free software, copyleft
- ❑ Many examples...

Free software



Richard Stallman

- ❑ Proprietary software
 - Restrictive licences, closed source code
- ❑ Open source
 - Bazaar-model og sharing: efficient development of software
 - Eric Raymond
- ❑ Free software
 - Freedom is important – freedom to do what you want
 - Copyleft – use the copyright to protect the freedom
 - Licensing is important

Assignments

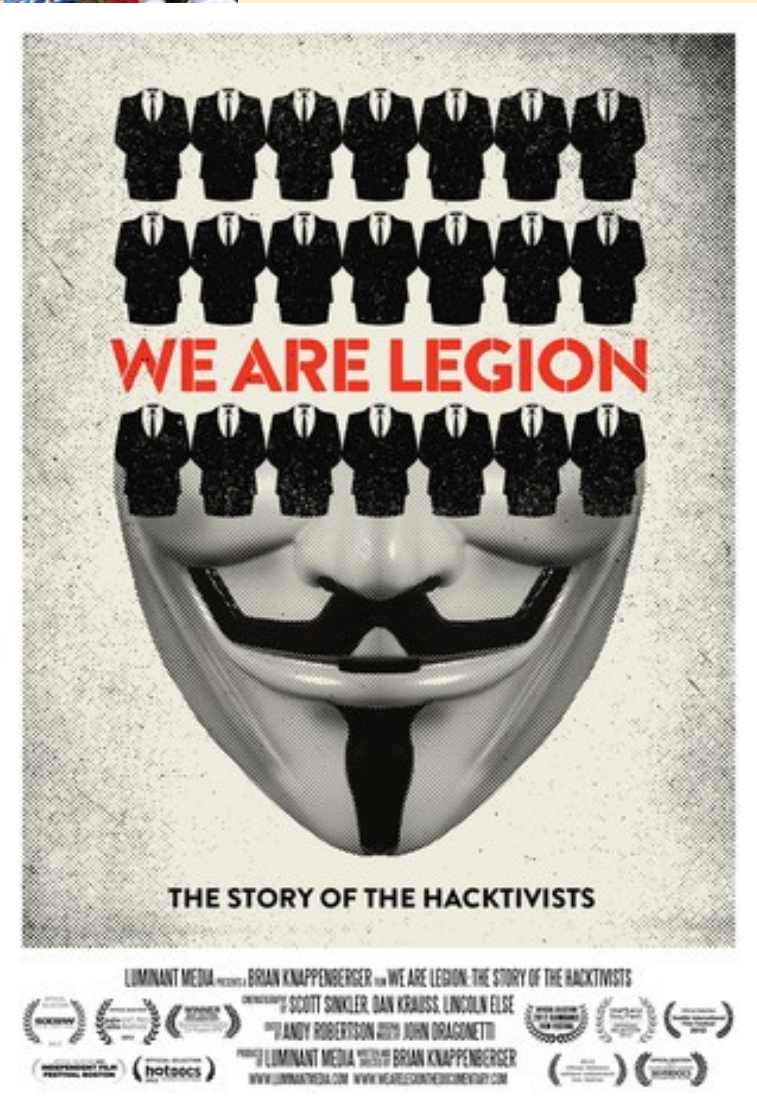
- ❑ When is it legal to use or copy copyrighted material without getting permission first?
- ❑ Why is DRM so controversial?
- ❑ Software patents: Pro & contra...
- ❑ What is “copyleft”? To what extent can others distribute modified versions of your work without your consent (with GPL or CC-BY-SA licencing)?

Other topics

- ❑ Hacking – can mean different things...
- ❑ Hacktivism
- ❑ Cybercrime, cyberwarfare, security
- ❑ International law
- ❑ Digital divide, accessibility, internet for all?
- ❑ Open standards



CC BY-SA Wikimedia....



(C) Luminant media

Assignments

- ❑ What is a “hacker” How has the meaning of the term “hacker” changed the last 30 years.
- ❑ Have we an ethical responsibility for securing our computers?

How did it go?

- ❑ Very positive feedback from students
 - Interesting and relevant

But

- ❑ There are changes...
 - Nord University is closing down many study programmes (there is much conflict about it).
 - Are we becoming a university without technology education?
 - Information systems in Mo i Rana is being closed down.
 - Replaced with: Digital economics and organisation
 - My Ethics course was in, but suddenly the dean removed it and replaced it with Ex. Phil because of protests.
 - The topics will be integrated in other courses.



Conclusions

- ❑ Should there be a (standard) ethics/society course specifically for ICT students?
 - ★ Or should this course be given to all students?
- ❑ How to make a successful course?
 - ★ Well known practical cases?
 - ★ Some theory but not too much.
 - ★ Culture (we are computer people...), professionalism
 - ★ Am I somewhat biased (morally, politically)?
- ❑ Is there a lack of a proper textbook?
 - ★ There are several american textbooks in computer ethics
 - ★ European and nordic law and politics is somewhat different.
 - ★ Anyone want to write such a book?
<https://github.com/ohanssen/IT-Etikk>