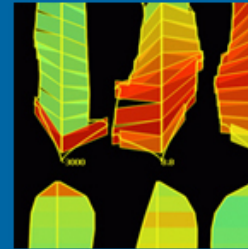
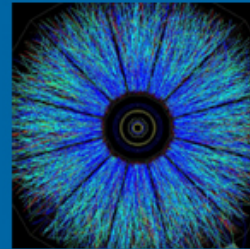
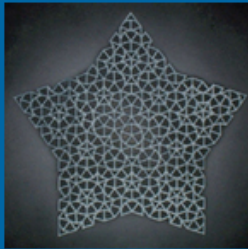




Swansea University
Prifysgol Abertawe

CS-130: Professional Issues

Reasoning about the future



Lecture Learning Goals

- In general, how can I think about and analyse the effect of a technology on society and vice versa?
- Why can't we just be good people?
- What specific topics are we going to discuss in CS-130?

So how do we think about changing technology

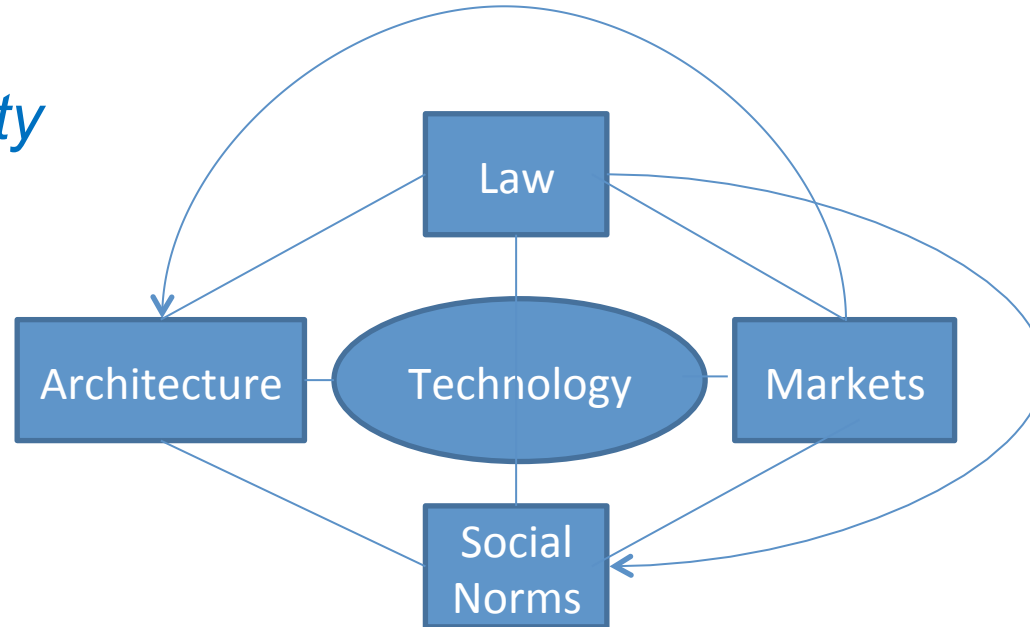
Lawrence Lessig

- American Lawyer, Activist, Academic and now Presidential Candidate
- Interesting ideas like “Code is Law” and Net Neutrality
- Wanted a way to understand, what regulates behaviour in the real world?



Lessig's Four Modalities Analysis

Society



Lessig's Four Modalities Analysis

Law – the applicable Laws that relate to a piece of technology (and there are lots of them!)

Markets – the commercial factors that influence a piece of technology

Social norms – the ways that people interact with each other and technology, unwritten rules that govern how we behave

Architecture – any complex or designed physical structure

So think, but don't try to predict

“This telephone has too many shortcomings to be considered as a means of communication. The device is inherently of no value to us”

– Western Union internal memo, 1876

“The problem with television is that the people must sit and keep their eyes glued on a screen; the average American family hasn't time for it”

– New York Times, 1949

“There is no reason anyone would want a computer in their home”

– Founder of DEC, 1977

“640 kB ought to be enough for anybody”

– Bill Gates, 1981

Working in groups

Think of examples of how a technologies design has been affected by each of the components of Lessig's four modalities

Working in groups

Think of examples of how Law, Markets, Social Norms and Architecture has been affected by technology

Key Lesson: The Law is an Ass

Vast amounts of laws and difficult to understand but it effects all of us!

Law is made by politicians, almost always without an in depth understanding the technology

- Not a judgement, a simple fact

In turn, judges and lawyers interpret these laws – again without understanding the technology

Examples of The Law Being an Ass

1995 study published in Georgetown Law Journal suggested 83.5% of all internet traffic was pornography

- Horrendously flawed study
- First picked up on and reported as fact in Time magazine 2 years later
- Shaped laws for years to come and often repeated or believed to this day

Judges in France decided that it is the responsibility of US companies to prevent French citizens from accessing data on US servers

"As one who acknowledged in his opening statement that he was not a nerd and didn't understand a lot of the technological stuff, I'm not the person to argue about the technology part of this."

But the law faces some real challenges...

Who is responsible when a computer program makes a far-reaching mistake?

- Software making medical decisions
- Stock markets operating 24/7

Software making decisions about drug doses

“Computers have enabled people to make more mistakes faster than almost any invention in history, with the possible exception of Tequila and Handguns”

Specific topics discussed in this lecture series

How to try to understand the impact of new or disruptive technology

- Examples, how new technology is created, tech companies, language to use, etc.

The most important elements of the law as they relate to computing

- Data protection, computer crime, intellectual property, Surveillance in society, etc.

Specific topics discussed in this lecture series

Computer security fundamentals

- Cryptography and encryption, Internet governance, good data security practices

Societal issues and computing

- Warfare, healthcare, education, computer games and violence, social media, politics and democracy, The ownership of the internet?, The tragedy of the commons

Lecture Learning Goals

- In general, how can I think about and analyse the effect of a technology on society and vice versa?
- Why can't we just be good people?
- What specific topics are we going to discuss in CS-130?

Lecture Learning Goals

- In general, how can I think about and analyse the effect of a technology on society and vice versa?
Lessig's four modalities analysis breaks down the elements of society you can consider
- Why can't we just be good people?
The legal issues in computing are complex and ignorance of the law is not an excuse
- What specific topics are we going to discuss in CS-130?
Understanding new technology, law and computing, computer security and a wide range of societal issues