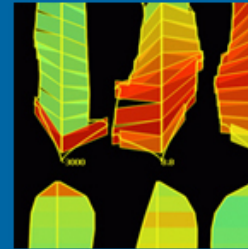
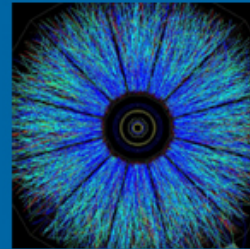
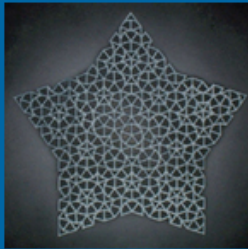




Swansea University
Prifysgol Abertawe

CS-130: Professional Issues

Fundamental concepts



Uber test lets riders record audio via its app if they feel unsafe

Following a storm of bad press, the company is trying to improve passenger safety.



Georgina Torbet, @georginatorbet
5h ago in [Transportation](#)

1
Comments

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Uber reportedly tells its staff not to disclose potential crimes

Uber says it's not its job to determine whether a crime has occurred.



Rachel England, @rachel_england
09.26.19 in [Business](#)

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Topic Learning Goals

- Analysing the effect of a technology on society and vice versa – how can I break this problem down?
- Forecasting the future – lots of people get it wrong, can I get it right?
- Why it's naive to just try to be good – why do I need a module to tell me how to think about the effect of the technology I make in my career?

How do we think about technology?

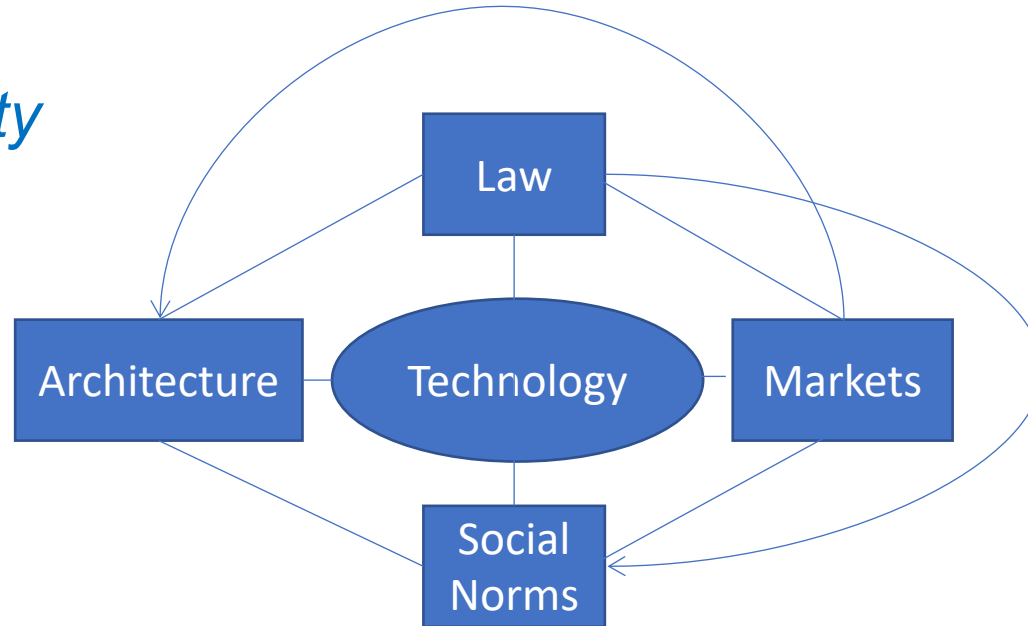
Lawrence Lessig

- American Lawyer, Activist Academic and occasional 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 for 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

Working in groups

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

Tetlock's Forecasting Research



Phil Tetlock

- Canadian psychologist and political scientist
- Interested in why we can't predict the future or why only some of us can?
- Wanted to understand what made a person a good predictor – what traits they had and what cognitive approaches they used

Ten Traits of Superforecasters

1. Triage – know what you can predict and what you cannot
2. Sub-divide your problems
3.

Working in groups

“How many piano tuners are there working in the American city of Chicago?”

Ten Traits of Superforecasters

1. Triage – know what you can predict and what you cannot
2. Sub-divide your problems
3. Adopt ‘outside views’
4. Balance reactions to evidence
5. Look at clashing forces
6. Distinguish degree’s of doubt
7. Balance under and over confidence
8. Look at your own errors
9. Work in teams
10. “Master the error balancing bicycle”

So think, but don't be too certain!

“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

“The Law is an Ass”

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

- Deeply 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."

It's not enough to react to what happens

All this is to convey that there are vast amounts of laws that are difficult to understand but effect all of us!

The law is made by politicians, almost always without an in depth understanding of the technology it governs

- But should that be an excuse to not be regulated at all?

In turn, judges and lawyers interpret these laws – again without understanding the technology the same way you will

And the law faces some real challenges...

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

- Driverless cars
- Stock markets operating 24/7 without human oversight
- Home made or re-purposed medical devices

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 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

Topic 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?

Topic 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
- How can I forecast the future
You can't but you can make educated guesses
- Why can't we just be good people?
The legal issues in computing are complex and ignorance of the law is not an excuse

Wider reading

Recode Decode Podcast: Facebook's former security boss Alex Stamos and Twitter co-founder Eve Williams

- Contradictory public pressure on Facebook to regulate more and protect privacy more

Bloomberg: Google, Facebook Set 2018 Lobbying Records as Tech Scrutiny Intensifies

- Get a sense of how much money tech companies spend avoiding regulation in the US

Recode Decode Podcast: Congressman Ro Khanna

- The current state of tech regulation in the US according to the congressman who represents Silicon Valley