Law and technology
Impedance mismatch

New talk, who dis?

I am:

- mjec

- a practicing lawyer

- the EasyCount guy

- an Arch/i3wm user

Public domain, probably. First published in Nordisk familjebok, 1876.
Digitised by Project Runeberg at http://runeberg.org/nf/.

New talk, who dis?

Public domain, probably. First published in Nordisk familjebok, 1876.
Digitised by Project Runeberg at http://runeberg.org/nf/.
Modified by me drawing some lines.

I am not:

- my employer

- your lawyer

- a 1337 h4x0r

- vexatious

4 Feb 2016

Lawyers and politicians don't get it

- Governing behaviour that is not well understood is hard

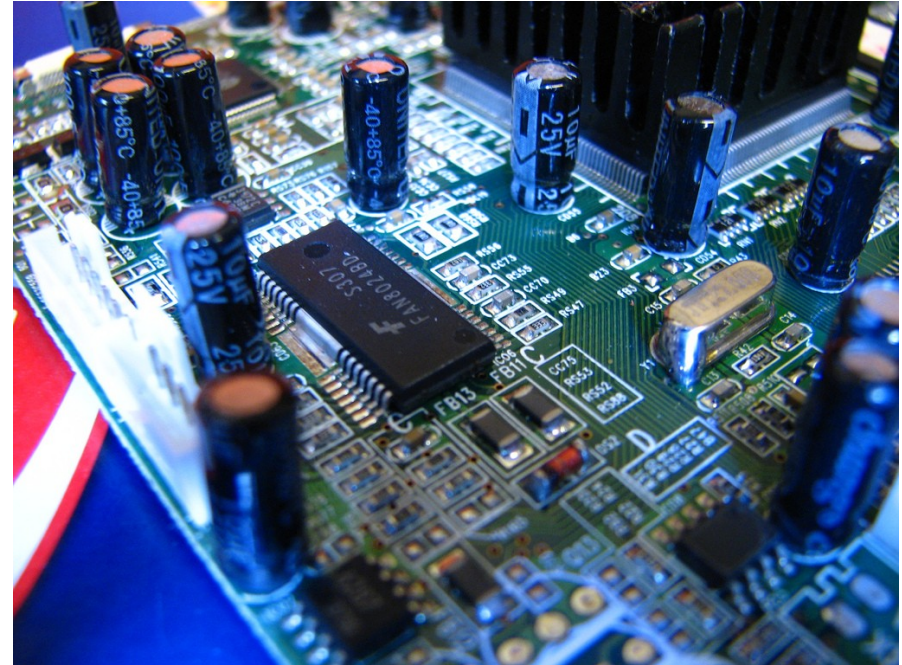Randall Munroe 2014 CC-BY-NC 2.5
https://xkcd.com/1425/

Tech people don't get it either

- Good reasons for complexity in law
- Technology isn't neutral

Legal detailed programmatic specificity

- Construction

- Food

- Civil aviation

- Broadcasting

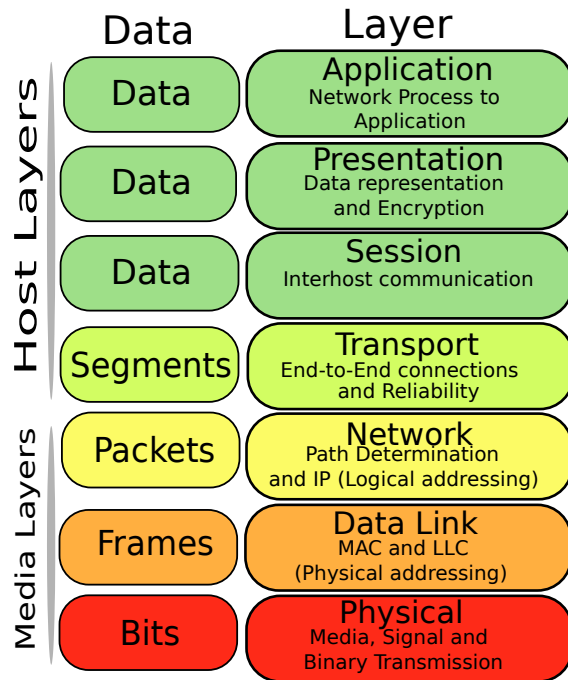fdecomite 2011 CC-BY 2.0 https://flic.kr/p/9fNt59

4 Feb 2016

Some quotes from one law

Namely the *Telecommunications (Interception and Access) Amendment (Data Retention) Act 2015* (aka C2015A00039)

- a service for carrying communications, or enabling communications to be carried, by means of guided or unguided electromagnetic energy or both

- type of communication

  Examples: Voice, SMS, email, chat, forum, social media.

- type of the relevant service

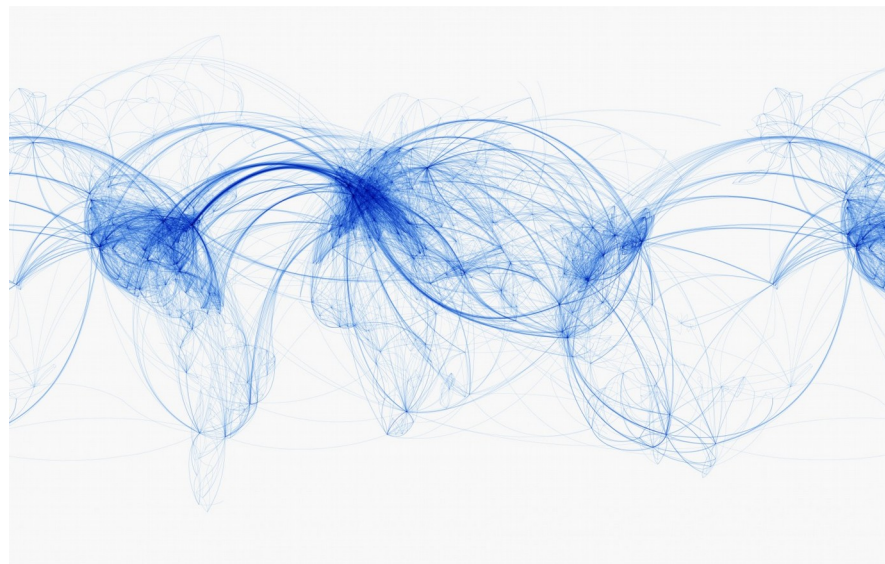 *Examples:* ADSL, Wi-Fi, VoIP, cable, GPRS, VoLTE, LTE.

OSI model anyone?

Data	Layer	
Data	**Application** Network Process to Application	Host Layers
Data	**Presentation** Data representation and Encryption	Host Layers
Data	**Session** Interhost communication	Host Layers
Segments	**Transport** End-to-End connections and Reliability	Host Layers
Packets	**Network** Path Determination and IP (Logical addressing)	Media Layers
Frames	**Data Link** MAC and LLC (Physical addressing)	Media Layers
Bits	**Physical** Media, Signal and Binary Transmission	Media Layers

Gorivero et al, 2015 GNUFDL 1.2 / CC-BY-SA 3.0
https://commons.wikimedia.org/wiki/File:Osi-model-jb.svg

Blue Tones 2009 just posed to a forum somewhere
http://www.mcfc-forum.co.uk/forum/viewtopic.php?f=2&t=1304

Something less obvious
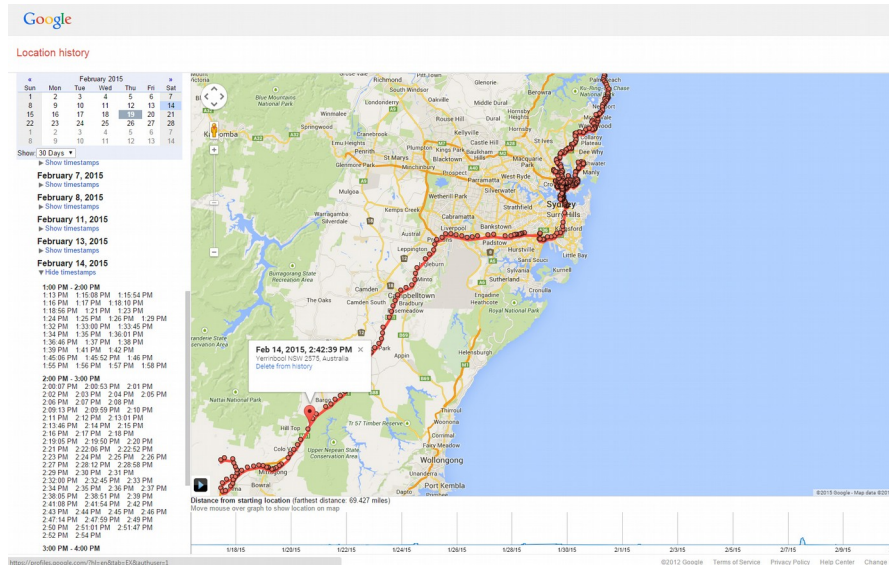
- *Privacy Act* on cross-border disclosure

- Distinction between 'use' and 'disclosure'

SquidHammer 2009 'Wikipedia licence'
http://squidhammer.blogspot.ca/2009/03/world-airline-map.html

Something less obvious to government

- Analysis of 'anonymous' data
- Name
- Photo
- GUID

4 Feb 2016

Hundreds of examples

- Encryption
- Unauthorised access
- Copyright
- Evidence

RodneyRuxinEverybodyCallsMeRuxin http://imgur.com/gallery/zqUDpIk
Originally from Naked Gun 33⅓. Fair dealing for parody or satire claimed.

4 Feb 2016

An obvious, ~~easy solution~~

~~Everyone must know about technology~~

Just make lots of contracts

- Copyright
- TOS
- EULAs
- P3P

TheeErin 2006 CC-BY-NC-ND 2.0 https://flic.kr/p/dQD2u

4 Feb 2016

Laws which are fit for purpose

Charlotte L 2011 CC-BY 2.0 https://flic.kr/p/eDyNd

- An ISP is not an IRC server

- VOIP isn't PSTN

- Focus on the outcome, sometimes

A somewhat radical shift in legal approach

- It turns out the internet is (somtimes) different
- *United States v. Causby*

Detail from photo by Fons Heijnsbroek 2007 CC-BY-NC 2.0 https://flic.kr/p/h4xXU2

You can help!

- Don't ignore law
- Don't be too technical
- Don't expect a technical solution

- Think about policy solutions
- Talk to everyone
- Occasionally sue government

Questions?

www

mjec@mjec.net

twitter

Law and technology

Impedance mismatch

I'd like to start by acknowledging the Wathaurong (War-thar-wrong) people of the Kulin (Cool-in) nations, the traditional owners of the land on which we are gathered today. I pay my respects to the local people for allowing us to have our gathering on their land and to their Elders; past, present and future.

A small token, but I think it's important.

New talk, who dis?

I am:
- mjec
- a practicing lawyer
- the EasyCount guy
- an Arch/i3wm user

4 Feb 2016

---

mjec / em-jec

Hobart law firm
 → IP / privacy /admin
 → some coding
 → one EC2 micro ergo sysadmin

I tried to get the Australian Electoral Commission to provide me with the source code for the software they used to count votes. Didn't win. We can chat.

I use Arch Linux and i3wm. This slide originally said I'm pretty pretentious, but I think this better encapsulates just how pretentious.

I don't represent my employer

This isn't legal advice – some of this information might not be current, relevant or even correct

I'm certainly not your lawyer – but I can be for great value fees we can discuss during the break

I'm pretty techy, but this isn't a highly technical talk, and I wouldn't be qualified to give one of those

Despite what the Australian Electoral Commission has tried to say, I'm not vexatious

Law is old, based on old ideas
 → couldn't enforce every law all the time
 → couldn't track people

Law tries to deal with everything the same way, to be generic and technology neutral.

Basis in old ideas about what the law should be, how it should work (rule of law, few laws, process focus). These are good ideas!

Many politicians/judges/lawyers barely use email.
→ Clinton's 'Manhattan project for encryption'.
→ Scott Ludlum was a graphic designer.
→ Malcom Turnbull was a business owner.
Not *that* techy.

Tech people don't get it either

- Good reasons for complexity in law
- Technology isn't neutral

4 Feb 2016

Nobody in this room wants to spend five years reading though all these books. They are almost exclusively in dead tree form; if not they're probably written on dead animals instead.

The law is complex, and there are good reasons for that. Come chat to me if you want to know more.

But also, technology isn't neutral, as Catarina Mota said in her keynote. It exists in a context. There is groupthink, and there is a similar approach from a lot of tech people.

Often this includes a belief that tech *is* neutral. It kind of is (e.g. Tor, BitTorrent) but it turns out reducing access to assult rifles reduces deaths by assult rifle. Doesn't apply to BT/Tor, but keep it in mind.

Legal detailed programmatic specificity

- Construction
- Food
- Civil aviation
- Broadcasting
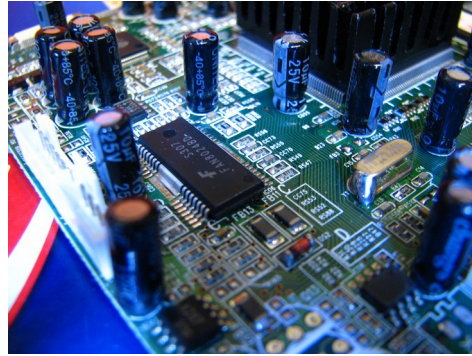
　　　　　　　　　　4 Feb 2016

The law can embrace technical specifications in some areas.

Plenty of non-tech examples
→ food standards code
→ building codes (in countries that have them)

But also quite a few tech examples
→ civil aviation
→ radio regulations
→ information security manual
→ Defence and Strategic Goods List

Let's look at some law that deals with tech and that isn't very good.

Some quotes from one law

Namely the *Telecommunications (Interception and Access) Amendment (Data Retention) Act 2015* (aka C2015A00039)

- a service for carrying communications, or enabling communications to be carried, by means of guided or unguided electromagnetic energy or both

- type of communication
  Examples: Voice, SMS, email, chat, forum, social media.
- type of the relevant service
  Examples: ADSL, Wi-Fi, VoIP, cable, GPRS, VoLTE, LTE.
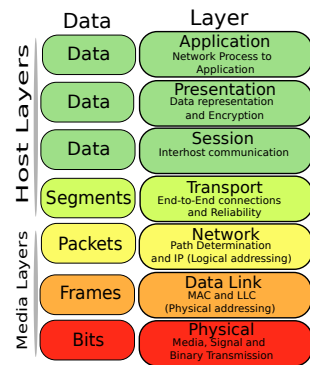
4 Feb 2016

Software is a service
 → it's an IP licence granted under a contract
 → it's a continuing licence (normally revocable)
 → so an ongoing right to use a thing

Some software enables communications to be carried by means of guided or unguided electromagnetic energy.

So do you have data retention obligations in relation to software you produce? Probably not.

The 'type of communication' and 'type of service' are both absurdly broad

OSI model anyone?

Tech people deal with this all the time.

We have a language to decribe these services.

We use encapsulation.

We can split off headers and keep those, if that's what you want us to keep. We don't have to do deep packet inspection.

Something less obvious

- *Privacy Act* on cross-border disclosure
- Distinction between 'use' and 'disclosure'

SquidHammer 2009 'Wikipedia licence'
http://squidhammer.blogspot.ca/2009/03/world-airline-map.html

Michael Cordover · https://mjec.net/talks/lca2016 · CC-BY 4.0

4 Feb 2016

Anyone can bash data retention.

Privacy Act prohibits cross-border disclosure of personal information so you don't lose privacy protection when information is exported. If it is exported, warnings (inc. government access).

If overseas entity doesn't have any right to deal with the information, it's use, not disclosure ergo not regulated
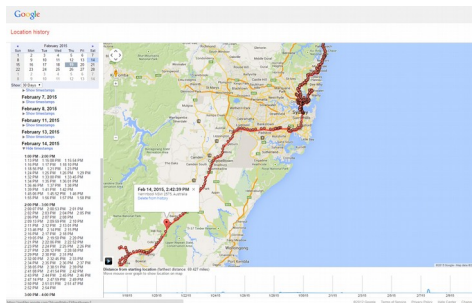 → e.g. Dropbox – they can't go off and disclose to others
 → except they can if they get hacked
 → or if the government where the server is demands it
 → or actually under the TOS

What about Dropbox's data centres?

Something less obvious to government

- Analysis of 'anonymous' data
- Name
- Photo
- GUID

Nick Ross 2015 (no licence but fair dealing for research or study claimed)
http://www.abc.net.au/technology/articles/2015/02/19/4183553.htm

4 Feb 2016

Privacy rights were a long time coming

Confidentiality was originally a commercial concept

Defamation was never an adqauate proection

Tort of privacy (ALRC)

Personal information focus
 → reasonably identifiable
 → name or face
 → anonymity is not real if I'm the same every time
 → data linking in the private sector

Behaviour tracking (e.g. Target 2012)

Medibank Private + Flybuys
 → 10 pts (~5c) / day 10,000 steps on your fitbit

Hundreds of examples

- Encryption
- Unauthorised access
- Copyright
- Evidence

RodneyRuxinEverybodyCallsMeRuxin http://imgur.com/gallery/zqUDplk
Originally from Naked Gun 33⅓. Fair dealing for parody or satire claimed.

4 Feb 2016

Pete Lawler on HTTPS certificates; Me on gov-issued X509 circa 2001; EasyCount 'algorithm'

Cth Criminal Code s 478.1 access to data 'to which access is restricted by an access control system associated with a function of the computer'
→ URL munging
→ what if automated?
→ what if fuzzing?
→ MAC changing?
→ brute forcing passwords?

Evidence of emails
→ DKIM, server logs etc
→ … but really just printouts

Copyright
→ ISP liability/iiTrial
→ 'Substantial part' meaningless in bits

An obvious, ~~easy solution~~

~~Everyone must know about technology~~

4 Feb 2016

Tony Morris gave a great talk at the FP miniconf on parametricity. Part of what he said was:

 → FP has already won
 → everyone should use total languages (not Turing-complete, but enable some awesomeness)

Tech exceptionalism – everyone should get it.

Sounds like the claim is 'we should be treated differently' – politicians aren't experts on mining or economics either.

Would be amazing. Isn't going to happen.

Just make lots of contracts

- Copyright
- TOS
- EULAs
- P3P

TheeErin 2006 CC-BY-NC-ND 2.0 https://flic.kr/p/dQD2u

4 Feb 2016

Technically broader than contracts – private law

Great for libertarians

Great for people who can afford to sue
 → *Dow Jones v Goodnick*

Great if the internet is all in one jurisdiction

Great if you know who's on the other side

Great if they have money or the ability to remedy the situation

I'm cynical, but this is actually a good decentralised way forward

Laws which are fit for purpose

- An ISP is not an IRC server
- VOIP isn't PSTN
- Focus on the outcome, sometimes

Charlotte L 2011 CC-BY 2.0 https://flic.kr/p/eDyNd

When I was in high school, I had a science teacher who when we learned geology would drill into us that 'a rock is not a bloody stone'. I have no idea what the actual difference is, but I know better than to confuse them.

Politicians don't have to know the differences, just have to trust they need to be treated differently.

Sometimes it is about outcome ('mischief'):
 → revenge porn is not okay, regardless of medium

Sometimes it is about medium:
 → data retention
 → privacy – going into a store over and over vs using Google

Parliament sits often enough we can adapt

A somewhat radical shift in legal approach

- It turns out the internet is (somtimes) different
- *United States v. Causby*

Detail from photo by Fons Heijnsbroek 2007 CC-BY-NC 2.0 https://flic.kr/p/h4xXU2

4 Feb 2016

You only have to understand the problem once

Things like the privacy issues we talked about, where the impact comes from the repetition of the action (e.g. tracking), not from the single action.

MongoDB is web **scale**, but lots has changed:
→ Pervasive surveillence/enforcement is new
→ Randi Lee Harper's talk actually explained this really well. In the 90s you might get mailbombed hello.jpg but you didn't have to move house.

1946 'whoever's is the soil, it is theirs all the way to Heaven and all the way to hell' – turns out to be a problem when there are aeroplanes (and satellites)

Douglas J - 'that doctrine has no place in the modern world'

You can help!

- Don't ignore law
- Don't be too technical
- Don't expect a technical solution
- Think about policy solutions
- Talk to everyone
- Occasionally sue government

4 Feb 2016

A seat at the table is important, as George Fong said in Tuesday's keynote

There's not likely to be a technical solution to these problems, because society isn't just technical

So think about policy – scary stories are powerful, but we also need to identify the behaviour we want to change (e.g. Target – figured out someone was pregnant – their solution was to keep tracking but make it less obvious so you don't feel queasy)

Have to be able to talk to your audience – especially non-tech people

When all else fails, you can be like me, and just sue the government

Questions?

w w w

m j e c @ m j e c . n e t

t w i t t e r

4 Feb 2016