Human Rights in Internet Design History

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IETF 100
It started as a joke . . .

• Designing the Internet will . . . "secure the rights of life, liberty, and the pursuit of happiness for ourselves and our posterity, . . . oops" (Vint Cerf, RFC 442, p. 1)
but quickly became very real

- "Network topology is a complicated political and economic question . . . . “ (Alex McKenzie, RFC 613)
The Context

• Today’s transformation in law-state-society relations equivalent to those that took place several hundred years ago when the international system of states was formed
  – growing tension between geopolitical & “network political” citizenship

• As the informational state evolves, it is becoming less certain of its identity
  – eg, in cybersecurity, “emanations” of the state
• The right NOT to know
   – a new policy principle
     • for individuals – the right to be forgotten
     • for states – when applying international laws of war to cybersecurity & cyberwarfare, withdrawal from requirement that states should know what is flowing through their networks
   – are there other new policy principles emerging?
• Identifying the legal subject is difficult in the digital environment
  – bots?
  – who/what is the legal subject when it comes to autonomous networks such as WikiLeaks?
• As legal systems developed for different types of technologies converge, it is the most repressive features of each that dominate
  – US example – 3 different legal “systems”
    • print & oral communication – First Amendment & related constitutional principles & law
    • broadcasting regulation
    • telecommunications regulation
  – Ithiel de Sola Pool was right
    • seminal: *Technologies of Freedom*, 1983
• We are having this conversation during a period in which human rights are under extreme & intensifying threat
• And the “facts” – information – are less & less pertinent to human rights
  – ex: FBI given right to surveil without any info
  – ex: evidence-averse policy-making
The Research

• US National Science Foundation funded analysis of treatment of law, policy, & politics within the first 40 years of the RFCs (1969-2009)

• Coverage
  – comprehensive inductive analysis of first decade
    • over 70 variables
  – sampled analysis of entire corpus
Policy Issues Show Up Early

• 1970 - security
• 1971 - privacy, commercialization of the network, possibility of malicious environment, access to network in rural areas, internationalization
• 1972 - environmental & energy problems
• 1973 - need for user authentication, spam
Policy-Making

• Announce positions
  – RFC 2458 – defines Internet telephony
  – RFC 2804 – wiretapping outside scope
• Address general legal issues
  – fraud
  – privacy (over 12%)
• Address Internet-specific legal issues
  – spam
  – viruses
• Respond to US law
  – RFC 799 – direct connection paths may not be possible under existing regulations
  – RFC 4869 – cryptographic interface to comply with national security specifications

• Respond to laws of other countries
  – RFC 101 – Canadian govt Internet goals
  – RFC 3837 – service providers subject to multiple, perhaps unknown, jurisdictions
Policy Analysis

• Technical background for network neutrality debate
  – outsiders ask for “fairness” without realizing
    architects agree but difficulties operationally
• RFC 4096 – spam law from Congress can’t work
  for technical reasons
• Support for critics
  – little on disability (only 2 RFCs), elderly (0)
• Evidence that counters critics
  – active ongoing discussion of language issues
Implicit Policy Analysis

• Technical analysis that introduces conceptual dimensions of a policy issue not yet evident in political & legal discourse
  – ex: privacy and the multiple, evolving technical triggers provided by cookies
  – here more nuance in technical thinking than in legal thinking so far
Policy-Making

- Defining the policy subject
- Developing decision-making procedures
- Establishing implementation programs
- Venue for conflicts & conflict resolution
Political Analysis

• Over 3 dozen RFCs discuss citizenship
  – including exploration of concept of net citizenship and what it means operationally
• Over 70 RFCs discuss jurisdiction
  – jurisdictional issues confound essentially all net-related policy-making
  – but Internet domain & geopolitical borders may not be the same
Early Attitudes toward Users

• Goal is to expand usage, BUT
  – new users have new demands
  – new users create new problems

• Expect users to be heterogeneous
  – but most familiar with selves as users
  – "naive" social science re users

• User practices as source of design problems

• User groups influence some design decisions
Early Distinctions among Types of Users

• Benign vs. malicious
  – "malicious," "pathologic," "illegal," "hostile"
  – by 1973, networked already brought down by both insiders & outsider hacker high school students

• Technical insider vs. technical outsider
  – programmers vs. non-programmers
  – those in design community vs. those outside
  – USING vs USER groups
• Human vs. daemon users
  – daemons = computer processes or software programs (later, also other protocol levels)
  – design weighted towards daemons
  – when take humans into account
    • often grudging
    • but often expands range of functions usefully
    • bemused by human preferences
  – "Can't stop" humans from acting (RFC 555)
Uses

• Expect uses throughout social life (Robert Kahn, RFC 371)
• Use creepage
• Tech innovations bring new uses
• Government uses
  – military + e-government, criminal justice, weather, air traffic control, education, etc.
• Commercial uses
  – health care, e-commerce, intra-corporate, leisure uses
Early Social Design Criteria/Policy Principles

• Principles from the first decade
  – user democracy
  – technological democracy
  – telepresent distant & distributed computing
  – privacy as key concern

• Human rights implicated
  – freedom of expression
  – access to information
  – privacy
Compared to Today?

• Privacy still the most discussed human rights issue
• Internet widely recognized as fundamentally important for human rights such as freedom of expression
• Formation of HRPC to be lauded
• The rights of concern to the design community are socio-technical, not just social
  – seen in US law since 1980s
    • eg, making decisions that preference the needs of a network over the needs of society
  – robot law
  – of deep concern from a human rights perspective
  – for Internet architects the “material” is code – which really means the medium you work in is complexity itself
• But code is **not** law
  – yes, extremely important structurally
  – but variance within autonomous systems
  – & can be changed/affected by lots of different kinds of entities (eg, middleboxes)
  – & politics still matter
• Unfortunately, law is not law either
  – interpretation, implementation, uses of evidence all matter
  – can get completely different outcomes from the same legal texts & systems
  – the law can also change very quickly
• Important to take human rights concerns into account during design process
  – but a bottomless pit – with each innovation, new issues
  – & whether or not information leakage matters depends on the political environment
• Cross-training of legal & technical communities essential
• As we move towards a political environment in which rights are bounded by autonomous systems rather than states the role of Internet architects becomes ever-more important politically
Publications


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• full texts of many publications at
  – people.tamu.edu/~braman
  – RFC-related pieces:
    http://people.tamu.edu/~braman/html/topicinternetdesign.htm

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