

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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