

The Once and Future Internet

A long time ago, back when cars used leaded gasoline and phone calls could be made person-to-person, there were a few people whose research and imagination allowed them to envision, in part, the complex and ever-more-ubiquitous tapestry of communication that we know today as the Internet. It took roughly 30 years for the Internet to go from theoretical possibility to critical infrastructure. With each passing year, more people saw the light and began to envision -- incompletely, often incorrectly in parts -- the Internet-to-be.

The idea hit the mass consciousness not long after Tim Berners-Lee had a few clever ideas, and suddenly the wildfire that was the World Wide Web swept almost overnight across our psychic landscape. Gone -- or at least ignored as irrelevant -- was the idea of a diverse multiprotocol world in which a thousand applications could flower. Who needs all those flowers anyway? A few variants are all you really need (Flowers 98, Flowers XP, etc.) The Web certainly democratized and popularized the Internet, but it also simplified it, and encouraged its users to be almost as passive as television-watchers. Amazingly, the Web *became* the Internet in the minds of so many people that even as august an institution as SLAC chose to focus this symposium on the Web, not the Internet.

With the bursting of the Internet stock bubble -- perhaps better thought of as the Web stock bubble -- we stand today in the cleanly-burned fields left behind by the web's wildfire. The non-Web Internet may yet re-emerge, as some of the old ideas that seemed to disappear in the conflagration turn out to be more like acorns, ready to bloom in the newly-thinned fields. In this talk, I offer the subjective opinions and predictions of one surviving old nut.

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Ancient History: Active Email and Organizational Memory

**Active Email:
Embed Restricted Programming Language
in Email Readers**

**Status: Prototypes, demonstrated, published
pre-1992**

**Organizational Memory:
"Mr. Wizard" server uses active email and
spreading activation to pass questions around**

Simple queries answered from database

Moderate queries answered by local experts

Hard queries cross oceans to find experts

**Status:
Prototyped by grad student in 1994.**

The Sad History of Internet Over-Commercialization

I. Active Email

The Vision:

**Define a language that is safe & useful,
then get it widely deployed.**

The Reality:

**Spread viruses using OS & application holes
Fool people into running executables
People are afraid of the concept**

**Application developers have to use
HTML email & links
to get people to a web page.**

The Sad History of Internet Over-Commercialization

II. Community knowledge and memory

THEN: Mr. Wizard idea

**Cooperatively exploit knowledge networks for
mutual benefit.**

NOW: Ask.com, etc.

**Tell people you've got the answers,
Advertise them into a stupor.**

The Sad History of Internet Over-Commercialization

III. Tools for social activism/organization

**Then: Amplify Impact with
Coordination/Communication Tools
(CMU Cheese Co-op)**

**Now: became business process engineering
Pay us and hope for the best!**

The Sad History of Internet Over-Commercialization

IV. Erotica and Pornography

Then: Shared openly on alt.binaries.*

"Can you help me see these pictures?"

"My disk is full!"

Now: unavoidable ads/teasers for pay sites

"Can you help me see these without paying?"

"I can't get rid of these popup windows!"

Security Past and Future

Once upon a time: the "crash" command

1993: There goes the neighborhood

**Today: fear, fear, fear,
Unreasonable expectation
No understanding**

**Tomorrow: Managed risk &
Trusted distributed services :**

- file systems...**
- backups...**
- telephony...**
- home monitoring...**

The Future of Internet Technology: Beyond the Web

**Infrastructure for *untrusted* programs
(Active email)**

**Location/awareness/monitoring services
finger -> LDAP -> Son of Carnivore?**

**Portable devices:
The Web Blinds us to the real potential!
Distributed data services != WWW**

**Expressions of skepticism:
Artificial Intelligence
Agent technology
Identity verification**

The Future of Internet Commerce: Real Service, Real Value, Real Profits

**The Internet was non-commercial until '93.
(Many people now refuse to believe this!)**

**But far earlier, communication via the Internet
was commercially valuable (primarily for email):**

**Private Research Labs
Military Development
Universities (they're businesses, too!)**

The market bubble was built on omphaloskepsis

**The Internet itself is not the value
The value is what the Internet does for you.
Example: NetPOS.com (picture)**

The Future of Internet Society: Catching up on Social Policy

I. Privacy is deception; work for tolerance.

**II. Internet governance is inevitable;
we need to work for openness**

Undemocratic committees are dangerous

**Internet voting makes no sense
(technically, politically, or morally!)**

The US really runs everything anyway

Only the UN has legitimacy in the long term

The Future of Internet Culture: Civilization, Etiquette, and the Endangered Commons

**Once, the net was a genuine commons
No commons survives a horde of refugees!**

**Smaller online communities are often best
Without "Us vs. Them" there is often no "Us"
Need: Tools/norms for delimiting communities**

Artificial families: the Vonnegut approach

**Internet Variant:
Centrally generated "family names"
based on affinities & interests**

**What we lack:
Shared First Principles
Spiritual Perspective
Foundational Documents**

CPSR's "One Planet, One Net" Principles and Their Implications

1. There is only one Internet. It links us all together.

People want to link their systems together:

Utility rises with community

The greatest community is the human community.

Ultimately, there's only one Internet.

Exclusion of a subgroup diminishes us all.

2. The Internet must be open and available to all.

**No authoritarian government restrictions
on Internet access (e.g. for dissidents).**

**No control of the global Internet
by national governments.**

**Net access is a fundamental human right,
to be removed only after due process
(e.g. for prisoners).**

**Economics should not be the sole
determinant of Internet access.**

**Handicaps should not be impenetrable
barriers to access.**

3. People are the Internet's stewards, not its owners.

**The Internet is a fragile resource,
shared by all,
like the ecosystem.**

**The free and open Internet
is a legacy to be preserved
and passed on to future generations.**

**Economic rights and interests
must be respected,**

**but not allowed to take precedence
over everything else.**

4. Administration of the Internet should be open and inclusive.

Business interests should not dictate outcomes.

Governments should not dictate outcomes.

Diverse voices should be represented wherever crucial decisions are made.

The needs of all humanity should be factors in the technical, social, political, and economic decisions.

***5. The Internet should reflect human diversity,
not homogenize it.***

**The Internet has the potential to be as varied
and multicultural as life itself.**

**It could also become a homogenizing force
on behalf of bland globalism.**

**Linguistic and cultural diversity
should be preserved.**

**Technical evolution should be moving away
from national and linguistic monoculture.**

Followup Information

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