

# [History of internet essay](https://assignbuster.com/history-of-internet-essay/)

Without a doubt, the Internet is undergoing a major transition as it

experiences a tremendous influx of new users. Due to the anarchic,

distributed nature of the net, we cannot even begin to enumerate the

population of the Internet or its growth. As more of the world’s

population moves on-line, new concerns will arise which did not

confront the earlier generations. The new culture will demand

different resources, services and technology than the old

generations expected and used. Already we can witness a clash

between the emergent culture and the entrenched culture. The

largest conflicts occurring now are about sharing resources, the

impending commercialization of the net, and the growing problem of

computer crime.

The Internet was born in the union of government and researchers,

and for two decades afterwards remained mostly the realm of those

two groups. The net began as ARPANET, the Advanced Research

Projects Agency Net, designed to be decentralized to sustain

operations through a nuclear attack. This nature persists today in

the resilience of the net, both technologically and in its culture.

ARPANET was phased out in 1990 and the net backbone was taken

over by NSFNET (National Science Foundation). Since 1969 the

main users of cyberspace have been involved in research or in the

university community as computer experts or hackers, exploring the

limitations and capabilities of this new technology. These people

formed a cohesive community with many of the same goals and

ethics. In addition to the homogeneity of the net, the small size

contributed to a strong feeling of community. There has been some

conflict between the hackers and the researchers over sharing

resources, and philosophies about security and privacy, but on the

whole, the two groups have co-existed without major incident.

The newest of the members of the so-called old generation are the

university users who are not involved in research work on the net.

Generally these are the students using the net for email, reading

netnews and participating in interactive real-time conversations

through talk, telnet or irc. This wave of people integrated smoothly

with the community as it existed. Still sharing the common research

and education orientation, the community remained cohesive and

the culture did not change much, perhaps it only expanded in the

more playful areas. These users did not compete with the

researchers for resources other than computer time, which was

rapidly becoming more available throughout the eighties.

It is only in the past year or two that we have begun to see the

explosion of the new generation on the Internet. Businesses have

begun connecting themselves to the net, especially with the

prospect of the NSFNET backbone changing hands to permit

commercial traffic. Public access nets run by communities or

businesses are springing up in cities all over the world, bringing in

users who know little about computers and are more interested in

the entertainment and information they can glean from the net.

Commercial providers like America Online and Compuserve are

beginning to open gateways from their exclusive services to the

open Internet, specifically allowing their users to access email,

netnews and soon ftp and telnet services. The explosion of BBSs

and the shared Fidonet software has brought many users who were

previously unable to get an account through a university to the

world of email and netnews. At this point, anyone with a computer

and a modem can access these most basic services. Several state s,

such as Maryland, have begun efforts to connect all their residents

to the net, often through their library system. The city of Cambridge,

MA now offers access to the world wide web for short segments of

time in its public libraries, and even several progressive

coffeehouses in the San Francisco Bay area and soon in the Boston

area are offering public net access.

In the last 20 years, the net has developed slowly, adapting

comfortably as its population grew steadily and shifted the culture

to more diverse interests. But as the net faces a huge increase in its

users in a short time, the reaction is bound to be more severe, and

debate will center around several key issues that were irrelevant in a

small homogeneous community. The establishment of new customs

concerning these issues will define the culture of the future Internet.

Most resources on the net currently are not designed to handle the

amount of usage that will occur within the next six months. Sites

which offer access to ftp archives are particularly worried about the

massive influx of new users from commercial services opening

access soon. America Online administrators addressed this issue in

a recent piece of email to ftp sysadmins where they recognized the

perceived problem and stated that they would “ request that AOL

members limit their FTP traffic to off-peak hours for sites” and “ work

with administrators to help manage load problems.” They offer to set

up mirror sites for easier access to these resources. Unfortunately,

this may not be adequate — it is certainly agreed by now that

Internet users will need more patience in the future when accessing

the information they want. Many net users have been complaining

recently about the influx of AOL users onto Usenet. Of course,

perceptions of these new posters were not enhanced by a bug that

caused their messages t o be reposted eight times. Newsgroups

(such as alt. aol-rejects) were created specifically with the intent of

insulting AOL users and resenting their entrance onto Usenet. As

the net becomes more crowded, we can expect more animosity and

rivalry for “ rights” to access resources.

As the NSFNET backbone changes hands to allow business traffic,

we will see even more of a business presence than that which

already exists. At the present time the ethics of business on the net

are very unclear. The perception of commercial use as inappropriate

use of the net still exists among many segments of the net

community. Incidents such as the mass advertisements from the law

team of Canter&Siegel have made many people fearful of the

potential of abuse of access in cyberspace. On the other hand,

useful services are coming on-line, especially with the advent of

fill-out forms on the World Wide Web. With technology

advancements like authentication and digital money, commercial

activity will become even more widespread.

Computer crime becomes a much more immediate problem as the

net’s population expands without control. The old and new

generations on the net have different security and privacy needs,

and different views of what constitutes a computer crime. Even as

this conflict plays out on the net, the print media sensationalize

every story of computer break-ins and computer pornography rings.

Often crimes that only incidentally involve the net are promoted as

being symptomatic of the destructive anarchy that exists on the net.

This attitude towards news about the net will eventually bring with

it stricter laws governing cyberspace. Major concerns in net crime

now involve break-ins, data theft, privacy violations and

harassment.

When the net was new, it existed solely for the purpose of

cooperation and collaboration between researchers. Thus, resources

were shared regularly and uncomplainingly. There were few enough

users that one could take the resources one needed without

disturbing other people’s use of the net. Of course, there was not as

much available then for which users would compete.

A few years ago, the idea of commercializing the net was a thought

anathema to most of the users, but slowly and surely, businesses

are establishing themselves on the net and will soon form a large

portion of the traffic. The old generation fears the abuse of the

anarchy of the net for advertising. Most people oppose intrusive

methods of advertising, such as junk-mailing lists and “ spamming”

Usenet, or posting messages to many newsgroups as Canter&Siegel

did. Individual choice in viewing promotional material is important to

the older generations because this is not intrusive, and in fact

supplies a desirable service. Word of mouth is an important factor in

deciding to view information about a product or a service.

On the smaller net of the past, there was less crime, less reason for

crime, and less vulnerability to major damage. The net was a

homogeneous community, dedicated to collaboration, and the

information stored on the net was hardly as sensitive as the

information soon to be spreading across the net like credit card

numbers, driver’s records, medical histories, proprietary information

and sensitive financial information. The action most frowned upon

by members of the old generation was misuse of resources. Most

realized that their systems and accounts were not very secure and

tolerated some exploration by curious hackers (though not

destruction of data). However, the old generation received a rude

awakening in November 1988 with the Internet worm. As the worm

spread to machines all over the nation, bringing down computer

systems by the dozens, the net community began to realize that the

security of the net would help them protect their data and their

resources. Although the worm was not a malicious invent ion, it was

easy to conceive of a recurrence of the worm with destructive

attributes.

In the early beginnings, many systems were open to all who wished

to come and share data or read documents. Computer experts

enjoyed exploring systems and finding entrances just for the

knowledge to be gained from these activities. This “ breaking in” to

systems was not a major concern for users. Over time, though,

people began to feel a right for privacy and security of their

information and hackers fell into disfavor. Data theft was also not a

big concern, as the purpose of the net was to share data, not to

restrict information. There was very little personal or private

information stored on the net. The small community only included

users with legitimate research concerns at the beginning, and

cyberspace was not as anonymous as it is now, so harassment was

not a concern.

The new generation has heard of the infinite resources of the net

and the hundreds of communities established on-line. In the last

several years the news media have been trumpeting the magical

things that the Internet can do for our society. Tantalized by these

reports, thousands of people unaffiliated with research institutions

or the government are streaming onto the Internet to access these

resources. This influx is causing a monumental change in the

direction and the culture of the Internet.

We are seeing the beginning of commercialization of the net. This

definitely represents a trend away from the old attitudes, as

commercial activity has been frowned upon for years. Now the

people of the net demand commercial services, information about

products, and companies demand access to consumers. It is unclear

to me what the new generation of net users want in the form of

advertising. Within the last year, however, we have seen a

frightening example of the potential of abuse of the Internet by

advertisers with the law team of Canter and Siegel. Their message

which was posted to almost all newsgroups was considered very

invasive and extremely inappropriate, yet the duo states that they

considered the advertisement a success, and are willing to repeat it.

Is this the kind of advertising the new generations want to see? Do

we want our inboxes filled with junk email and our travels on the net

interspersed by advertising?

Because more of us will be on-line, and more of our commercial and

business transactions will be taking place on-line in the future, crime

will rise in cyberspace, and people will need to be protected.

Currently the net operates mostly in an anarchic state with

sysadmins and government officials patrolling the borders. There

may, however, be a call for greater security on the net. Because of

the existence of much proprietary and personal information on the

net in the future, access to sites will be restricted severely, and

breaking into systems will become a more serious crime. Many

people are willing to let the government install our safeguards, but

there has been recent controversy about what kind of access the

government should have to our information. Computer crime has

been sensationalized recently in the media, especially crimes linked

to sex offenders or pornography distributers. I believe that this kind

of reporting is detrimental to the future of the net because it may

incite unnaturally stringent lawmaking in cyberspace.

As the Internet grows to encompass a larger segment of the world’s

population its diversity will increase until it begins to mirror the

external world. We are beginning to see breakdown in the previously

homogeneous characteristics of economic status and educational

background. In the San Francisco Bay area there are coffeehouses

with cheap access to an on-line chat area that even homeless people

can afford and indeed, many homeless people have come to find that

these chat areas give them a sense of community and “ home.” Local

library systems across the nation are providing net access.

Maryland’s Sailor project is a good example – they provide gopher

access in the libraries and through toll-free dialup, and individual

libraries will begin to offer full access with mail, ftp and telnet. With

the coming of the National Information Infrastructure, net access

may become as common as telephone access. It will cease to be

merely a useful toy and tool for the research community and will be a

simple fact of life, a point of access to a wealth of information and a

meeting place for dispersed communities. We can easily expect

conflict to arise in this nascent world net community simply because

of differences in needs and visions for the net.

An old attitude that makes it difficult to create harmony between the

old generations and the new is the behavior of more experienced

users towards `newbies’ on the net. In the past, one could expect

other users to be somewhat familiar with computing environment.

People who asked too many `stupid’ questions were ostracized and

`flamed.’ Now the net must handle a gigantic influx of users with less

computer experience, who will ask thousands of questions in their

exploration of the obscure operations of the Internet.

People come to the net with great expectations of the vast resources

available to them, and they do make use of them. Unfortunately, not

all sites are able to accommodate the increase in traffic, especially

with services like Compuserve and America On-line opening their

gates to the Internet. In a letter to ftp sysadmins, Robert Hirsh of

AOL states that AOL will request that its members limit traffic to

off-peak hours and that AOL will work with administrators to

manage load problems, specifically by providing local mirror sites for

AOL users and for Internet users. One Internet user from the

University of Massachusetts voiced his fears in a post to the

newsgroups alt. aol-sucks: “…careless actions by AOLers could

seriously jeopardize access and availability on sites already

overloaded and restricted.” and“ Those who depend on the Internet

for legitimate information retrieval/sharing and communication will

find themselves swamped in a sea of curiosity seekers, net. sex

geeks, and those who are convince d that `telnet’ is synonymous

with `Information Superhighway.’ ” The old generation perceives the

new generations as overtaxing the resources and resents the

burgeoning population.

Conflicts are inevitable in the commercialization of the net. Simply,

the old common philosophy was opposed to commercial activity on

the net because the net existed solely for research purposes. The

new generations see the net as the center for many services and

operations, and thus will require heavy commercialization of the net.

Commercialization does promise to bring more advancement in

technology and more investment in the net. The old generation is

being forced to accept commercialization, and there has been little

outcry over the appearance of commercial WWW sites. More than

anything else, the old generation fears the intrusion of advertising,

but this may become commonplace as people join the net through

commercial providers and access commercial servers.

Beyond resource management and commercial use, the area of most

concern policy-wise and legally is that of computer crime. The older

generation were used to an anarchic Internet and some would like to

continue this experiment in the spirit of freedom, but new users are

demanding protections similar to those we enjoy in the physical

world. I believe that the need for security is justified, though,

because of the expanding and changing nature of the Internet. In

particular, breaking in for exploratory purposes will be frowned

upon. As our cyber-dealings gain importance and we begin to think

in terms of our cyber-personae as being extensions of ourselves into

the realm of cyberspace, privacy violations, data theft and other

crime will become more serious.

We will spend more time in cyberspace handling our business

correspondence, purchasing products, disseminating information

and interacting with other people. Through these activities we will

gain identities in cyberspace that will be as important to us as our

identities in the physical world. We will need to have easily available

forms of authentication of people’s identities, probably through a

digital signature. Will we need to ensure that people only have one

identity in cyberspace? This may seem logical at first, just as in the

physical world we are only one identity by the government for

purposes of the law and finances. However, I believe that imposing

too many restraints in cyberspace will fail, because there is a

tradition of working around the technical solutions of authority to

access greater freedom. Perhaps it will work in the business world,

because fair dealings involve authentication of identity.

The net will become increasingly supported by commercial services,

and many of the resources we now have free of charge will become

commercial because they cannot serve the increasing population

without funding. Advertisement will become a commonplace

occurrence on the net, though I hope that by convention it will

remain unobtrusive. I fear that as more information about ourselves

become available on-line, marketers will not resist the opportunity to

use this knowledge to their advantage by targeting us for specific

product pitches.

Cyberspace will be policed in the future. I envision an agreement

between nations regarding illegal actions occurring in cyberspace

on a international scope not unlike the current law of the sea. We

will see the most control occurring where people get their access to

the net. Walls will go up in cyberspace, information will be hidden

and restrained. We will still have hackers working their art on the

net, finding ways around our technological barriers, and they will

become more dangerous as we have more sensitive information on

the net. Crime stories on the net will be sensationalized because

there will still be fear and misunderstanding of cyberspace, and

because of the increasing importance of on-line security.

The diversity of the emerging cultures will segment into like-minded

communities. Information on the net is oriented towards serving

interests and not uniting diverse interests. Thus, I fear that the

division between the older generations and the new ones will

become institutionalized as each culture builds the part of

cyberspace in which they wish to exist, and there will be little

communication between the parts culturally.

As we progress into the information age, everyone will move into

cyberspace, just as most people have adopted telephones and

integrated them into their homes and businesses. Thus, the on-line

culture will slowly begin to duplicate the physical world in its

inequalities and segmentation, its diversity and opportunity.

Restrictions will go up and walls will be built in cyberspace. There

will be laws and regional police to enforce those laws and monitor

security in their regions.

We are undergoing a transition perhaps on the same scale as the

transition to literacy several hundred years ago. For many centuries

after writing began, this skill was left in the hands of the educated

elite – mainly the church servants. When literacy finally came to the

majority of the middle class and some of the lower class, the

Renaissance began. Similarly, we are witnessing the opening of a

new medium of information to the general populace, and we can only

guess at the outcome.

## References

1. Brandt, Daniel. Cyberspace Wars: Microprocessing vs. Big

Brother. NameBase NewsLine, No. 2, July-August 1993.

2. Response from Canter&Siegel’s net access providers April

1994

3. Dern, Daniel. “ Myth or Menace? A History of Business on

the Net.” Internet World July/August 1994 pp 96-98.

4. Elmer-Dewitt, Philip. “ Battle for the Soul of the Internet.”

Time Magazine, July 25, 1994 pp 50-56.

5. Hardy, Henry. History of the Net

6. Hirsh, Robert. AOL FTP Access Oct 13, 1994.

7. US State of MD gopher site

8. Meyer, Gordon. The Social Organization of the Computer

Underground. August 1989

9. Otto, Justin. post to alt. netcom. conspiracy Aug 9, 1994.

10. Townson, Patrick. MCI Employee Cearged TELECOM Digest

V14 #385

11. Taylor, Roger. “ Brave New Internet.” Internet World,

September 1994 pp 36-42.

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