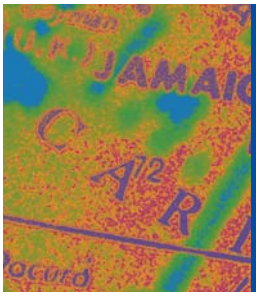


The Social Landscape

We're Coming Unwired

The freeways are humming with wireless WAPping,
And thrumming with fingers incessantly tapping
On palmtops and laptops and cellular keys,
As we drive with our midbrains and steer with our knees.

The joe in the Jag is composing an e-mail
To explain why he's late to a furious female,
Whom he'll presently placate by pointing his Palm
To get two dozen roses from Flowers.com.

There's an M&A gal in a 528
Who is dotting the i's on a deal that will mate
The nation of Greece with a content provider,
As she's merging herself, with the center divider.

Every Jack in his Jeep, every Jill in her Hyundai,
Is communing like mad with the *Spiritus Mundi:*
They are holding their phones in their teeth while they punch in
The name of the joint they're reserving for luncheon;
They get quotes from Lord Byron, or Chemdex and Chiron,
Oblivious all to the sound of the siren;
They are checking their flights,
As they whiz through red lights,
While an oncoming semi is flashing its brights ...
If you're holding some Nokia or 3Com, I'd park it.
I've a feeling success has been killing their market.

Geoffrey Nunberg[1]
April 17, 2000

1. www-csli.stanford.edu/~nunberg/poetastery.html.

Percentage of the population who are Internet users by country

50.0 – 70.0%
40.0 – 49.9%
30.0 – 39.9%
20.0 – 29.9%
10.0 – 19.9%
< 10%

Internet usage

Country	% Population using the Internet
Norway	59.7%
United States	50.9%
South Korea	50.5%
Netherlands	49.2%
Japan	44.0%
Canada	42.3%
United Kingdom	40.1%
U.A.E.	39.9%
Australia	38.8%
Germany	37.0%

Country	% Population using the Internet
Singapore	33.7%
Slovenia	31.0%
Malaysia	28.7%
Italy	28.4%
France	26.2%
Chile	20.0%
Spain	18.4%
Hungary	14.7%
Trinidad & Tobago	10.3%
South Africa	7.0%

Country	% Population using the Internet
Croatia	5.7%
Brazil	4.5%
Mexico	3.5%
Colombia	2.8%
China	2.6%
Saudi Arabia	1.3%
Sri Lanka	0.8%
India	0.7%
Uganda	0.2%

Sources: World Development Indicators Database, World Bank (July 2003).

The environmental scan begins with the "information consumer."[2] Without this person, there would be no libraries and no need for OCLC. But, the relationship between the librarian and the information seeker has often been uneasy—at least from the librarian's viewpoint.

Librarian yearns to see more of Information Consumer who is apathetic or indifferent to the wishes of Librarian. Librarian tries to be more accommodating by renovating the Home Page to be more attractive to Information Consumer who finds the changes pleasant enough. But while Librarian was busy sprucing up the Home Page—moving things from here to there and recovering the worn upholstery—Information Consumer has been hanging out at the Information Mall. Now Information Consumer is critical of what seems to be old-fashioned, fussy—and boring—decorating at the Home Page. Librarian tells Information Consumer that the Information Mall is shallow and disorganized and that anything found there is possibly shoddy and not to be trusted. Information Consumer isn't listening. Information Consumer is perfectly happy at the Information Mall.

Major trends

Three major trends have been selected to show information consumer characteristics.

- **Self-service: moving to self-sufficiency**
- **Satisfaction**
- **Seamlessness**

Self-service: moving to self-sufficiency

Users DO know what they're doing!

Industry Pundit

Banking, shopping, entertainment, research, travel, job seeking, chatting—pick a category and one theme will ring clear—self-service. People of all age groups are spending more time online doing things for themselves. According to one study, 71.1 percent of Americans were using the Internet in 2002; of these, 51.9 percent of them were reading news online and 35.5 percent were seeking medical information. Perhaps not coincidentally, 34 percent of Internet users in 2002 were older than 65, belying the stereotype of the youthful Web surfer.[3] Internet use is not only a U.S. phenomenon; many sources show significant Internet usage worldwide.[4]

In less than half a decade, consumers worldwide have learned to become efficient online purchasers. Studies show that many of the early roadblocks of online exchange—slow access, poor customer service, lack of security—have largely been eliminated. Almost half of the U.S. population purchased books online in 2002.[5]

The growth rates for using online services in the U.S. have also been experienced by the major economies worldwide. More than 30 percent of

2. The term is used both in the sense of one who purchases and ingests.
3. Jeffrey I. Cole, *The UCLA Internet Report: Surveying the Digital Future*. Year Three, 18, 21.
4. The CIA Factbook 2003.
5. Cole, *UCLA Internet Report,* 42.

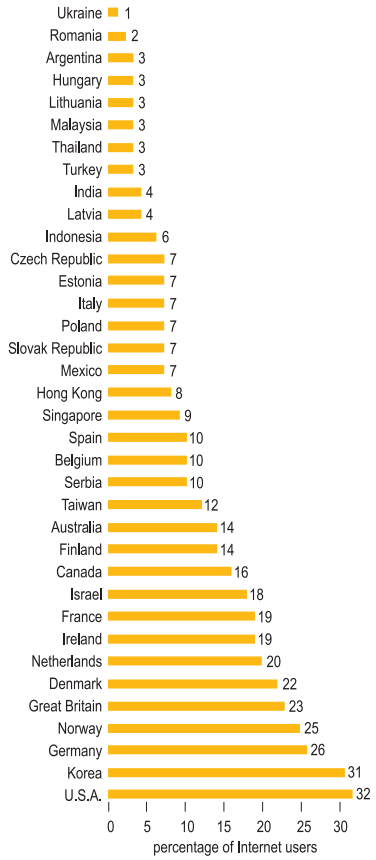
consumers across the U.S., Europe and China now bank[6] online and in France more than 40 percent of online shoppers have purchased travel services over the Web.[7] Online banking and online travel activities have disintermediated the humans who used to be the gatekeepers and guides to these services, but self-sufficiency and convenience are prime drivers for the consumer.

Online content[9] purchases continue to be strong. According to a report issued by the Online Publishers Association, U.S. consumer spending on online content exceeded $1.3 billion in 2002. Some 14.2 million U.S. consumers paid for online content last year, up 43 percent. Yahoo was the leading U.S. destination for consumer content purchases, followed by Match.com—a dominance reflecting the large amounts of content aggregated by the top revenue generators. Annual subscriptions, interestingly, are the dominant pricing model, accounting for 41 percent of online content sales. The average price for monthly subscriptions online was $10.32.[10] In a similar report also issued in 2003, Jupiter Research found paid content revenues in Western Europe to be 361 million Euros in 2002, projecting a rise to 2.366 billion Euros by 2007.[11]

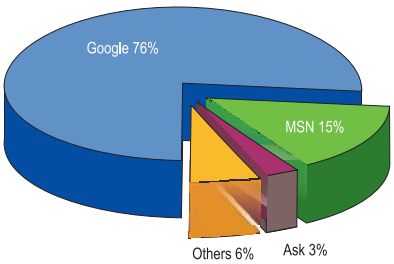
The significance of all this activity taking place on the Internet is that, worldwide, the trend is an increasing comfort with Web-based information and content sources. The information consumer operates in an increasingly autonomous way, interacting not with institutions but with operations and activities: one does "online banking" not "goes to the bank." Can't remember what the address of your virtual bank is? No problem. "Google"[12] it.

Google is not the only search engine. It isn't the only one people use. But it is by far the most commonly used one. On September 7, 2003, Google turned five. It answers 200 million search requests a day in 88 languages.[13] The information consumer searches Google to find old girlfriends, cars, scholarly papers presented at conferences, jokes about librarians, a quotation by William Gibson, the number of searches done on Google, e-mail addresses, the time in Helsinki and an image of Monet's *Waterlilies*. And the odds are that the information consumer considers these searches successful.

"The arrival of Google five years ago served as a kind of upgrade for the entire Web. Searching for information went from a sluggish, unreliable process to something you could do with genuine confidence. If it was online somewhere, Google and its ingenious PageRank system would find what you were looking for—and more often than not, the information would arrive in Google's top 10 results."[15]



Percent of internet users who have bought goods and services online during the past month—June, 2002[8]



Web searching technology[14]

6. More than one-third (37 percent) of all European Internet users, a total of 60 million people, performed banking transactions online in 2002. The number is projected to increase to 130 million by 2007. Forrester Research as reported in "Metrics," *CIO Magazine* (March 25, 2003).
7. The TNS Interactive-Global eCommerce Report 2002, E-mail address: interactive@tns-global.com.
8. Ibid.
9. "Content" discussed in this paragraph does not include books. It includes business, research, greeting cards, games, newspapers, horoscopes, digital music, adult entertainment, directories, credit information and sports, for example.
10. *Online Paid Content U.S. Market Spending Report, Q4 & FY2002,* Online Publishers Association (March 2003), www.online-publishers.org/opa_paid_content_report_030403.pdf.
11. As reported in a CyberAtlas report on paid content, http://cyberatlas.internet.com/markets/retailing/print/0,,6061_2189551,00.html (April 11, 2003).
12. The term is used as described at www.wordspy.com/words/google.asp. Google™ is a trademark identifying the search technology and services of Google Technologies Inc.
13. Jefferson Graham, "The Search Engine That Could," *USA Today* (August 26, 2003), www.usatoday.com/tech/news/2003-08-25-google_x.htm.
14. Danny Sullivan, searchenginewatch.com (provided by numbers from comScore Media Metrix) (August 1, 2003).
15. Steven Johnson, "Digging for Googleholes: Google may be our new god, but it's not omnipotent," *Slate* (posted Wednesday, July 16, 2003), http://slate.msn.com/id/2085668.

Satisfaction

Librarians have made retrieval and accuracy a god—disregarding what users' preferences are.

Associate University Librarian

Surveys confirm that information consumers are pleased with the results of their online activities.

Several recent studies indicate that information consumers are, by and large, satisfied with the quality of the information they find on the Web. During 2002, Outsell studied over 30,000 U.S. Internet information seekers. More than 78 percent of survey respondents said the open Web is providing "most of what they need."[16] Well over half of those surveyed responded "Nothing is missing." In 2002, the *UCLA Internet Report* found that 52.8 percent of users surveyed believed that most or all of the information is reliable and accurate and 39.9 percent thought about half of the information was reliable and accurate.[17]

The growing demand for information online has spawned the explosion of Internet-accessible "ask-a services." Worldwide, 193,000 Internet sites use the phrase "Ask a Librarian." What isn't known is how many users of such

*Sample Ask-A Services**

Directories
- AskA+ Locator (part of the Virtual Reference Desk)
- refdesk.com

General
- Abuzz
- AskBAR
- Ask an Expert
- Allexperts.com
- Ask the Old Buzzard
- Ask Jeeves
- Ask Madge
- Ask PointAsk
- Ask Zack
- CNN.com: Ask CNN
- Electronic Emissary
- Experts.com
- Google Answers
- Imagiverse
- Internet Public Library
- Keen.com
- Wondir

Legal
- Ask the Specialist
- Ask-A-Lawyer

Math and Science
- Ask-A-Geologist
- Ask Dr. Math
- Ask Dr. Universe
- Ask a Mad Scientist
- Ask Shamu
- Ask A Space Scientist
- How Things Work
- Science Canada
- Scientific American: Ask the Expert
- SpaceKids: Ask Experts

Medical/Health
- Ask Jack!
- FindCancerExperts.com
- Go Ask Alice!
- Mdexpert.com

Art and Humanities
- Ask Joan of Art
- Ask the Oracle
- Library of Congress: American Memory

Family and Personal
- Ask Madge
- iVillage — Experts Directory ("dozens of experts")

College and University Admissions
- About College
- iVillage: Ask the College Advisor

Linguistics and Urbanism
- grammarNOW!
- Handwriting Help for Kids
- Slavic Reference Service

*Compiled by OCLC Information Center Staff

16. Interview with Leigh Watson Healey of Outsell, Inc., (July 2003).
17. Cole, *UCLA Internet Report,* 18.

services have access to similar library services, and why nonlibrary-based reference services might be chosen over a library's service. What is clear is that information seekers are willing to pay for the convenience of online information services.

Information professionals are, generally, skeptical about the quality of answers provided through "ask-a services," the sources that are used to answer questions and the resources suggested for further investigations. However, a recent study conducted by Cornell librarians to compare and contrast the Cornell digital reference services with Google Answers yielded some very interesting results and raises some provocative questions about the use of highly trained, relatively expensive information professionals to answer simple reference questions.[18]

Librarians also wonder why individuals would pay for answers to questions when answers were available for free at their local libraries. Consumers are willing to pay for convenience.[19] But for the many people who do not yet have access to virtual reference services, the information hunt would mean a physical visit to the library. And while the answers may not come with a bill, there are costs associated with this.

There are features and services built into most Web sites that allow the information consumer to share. Instead of asking the librarian to use ILL to move an item from one library to another, the Web-savvy consumer can poke the ubiquitous "e-mail this article" button and off the content goes to you and several friends. In a work environment, it's a lot faster to send articles of interest this way to colleagues than it is to print an e-journal article and distribute it. And it may be that the e-mailed article might not be a scholarly article but expediency overrules effort. Call this IUE: Inter User Exchange.

Librarians worry that information found using search engines does not have the credibility and authority of information found in libraries, and that people will not learn basic information seeking skills. They worry that due to inadequate search terms and skills, much valuable material may be undiscovered.

There are some points to be made about these worries. First, most library users do not make a stop at the reference desk as they embark on their information safari with a well-trained guide. They boldly set off to look for answers on their own. This may take the form of wandering around the stacks, browsing and waiting for serendipity to strike. Or they make use of

What does a visit to a U.S. public library cost?

Estimates	Minutes	$50,000 Annual income	$85,000 Annual income
Travel time	20	$ 8.00	$13.60
Time in library	30	$12.00	$20.40
Return travel time	20	$ 8.00	$13.60
Per capita library expenditures[1]	----	$ 6.43	$ 6.43
TOTAL		$26.43	$40.43

1. *Public Libraries in the United States:* Fiscal Year 2001, U.S. Dept. of Education. NCES 2003-399.

What does a visit to a U.S. doctor cost?

Estimates	Minutes	$50,000 Annual income	$85,000 Annual income
Travel time	20	$ 8.00	$ 13.60
Wait time[1]	19	$ 7.60	$ 12.90
Time with doctor[2]	15	$ 6.00	$ 10.20
Return travel time	20	$ 8.00	$ 13.60
Charge/Fee[3]	----	$60.00	$ 60.00
TOTAL		$89.60	$110.30

1. "The Waiting (and Waiting and Waiting) Room," OnHealth.com, Patients' Rights Column (August 27, 1999).
2. Tracey Walker, "Medical Visits Get Group Mentality Approach," *Managed Healthcare* 10 (October 2000): 10.
3. Ray Carter, "Lower Reimbursement Rates Lead to More Cost-shifting," *Journal Record,* Oklahoma City, OK (July 30, 2003). (See Google Answer below.)

In preparation of this chart, we submitted our question to Google Answers.

"What is the average cost of a visit to the doctor?"

We received an answer in 41 minutes.

Although we did not consider the source provided to be the most authoritative, the Google Answer matched our cited source.

18. Anne R. Kenney and others, "Google Meets eBay," *D-Lib Magazine* 9, no.6 (June 2003).
19. Jessamyn West, "Google Answers is Not the Answer," *American Libraries* 34, no.6 (June/July 2003): 55.

The library community is mostly in denial about real issues and questions.

Industry Pundit

the filtering services the library provides: the online catalog and indexes. It is very likely that the terms being used in the catalog and the indexes are not the "best" ones—the ones a librarian would suggest—but unless each information seeker has a guardian librarian perched on a shoulder, the "good enough" terms will usually suffice. And the library user will never know what was missed.

Library collections contain material representing the gamut of opinions on topics. Any large academic or public library might own material on parapsychology, on Holocaust denial, on euthanasia, on the chemical processes for making LSD. There is nothing inherent in the organization and structure of the library that marks this content as "possibly illegal, fraudulent or outright crazy—use at your own risk." And librarians will vociferously defend the individual's right of access to such materials. But what this means, of course, is that many users of libraries also find material of dubious authority, quality, accuracy and reliability.

The indisputable fact is that information and content on the open Web is far easier and convenient to access and find than is information and content in libraries, virtual or physical. The downside is that there is no controlled vocabulary and no classification system to bring the intellectual order of a library to the Web. The upside is that there is no controlled vocabulary and no classification system. The information consumer types a term into a box, clicks a button and sees results immediately. For the most part the information consumer is satisfied. As any marketer knows, it is very difficult to get satisfied consumers to change brands. There has to be a very clear payoff and advantage.

Instead of wringing our hands over students using the Web for research, we should help them learn to use Web materials and resources more effectively.

Director, Academic Library

Seamlessness

The traditional separation of academic, leisure and work time is fusing into a seamless world aided and supported by nomadic computing and information appliances that support multiple activities. This phenomenon is most marked among young adults,[20] but one only has to look at advertisements in any business magazines or newspapers to find images of people sitting on beaches, in restaurants and other leisure locations, making critical business decisions or sales, using some kind of wireless appliance. And the advent of wireless appliances and communication is allowing less developed countries a chance to leapfrog a generation of landlocked technology.

But it is young adults that this section focuses on: they are the most numerous population on a college campus, and they form a significant portion of any public library's community of users. It is also with this group that the biggest disconnect between the current structure and presentation of content in libraries is most evident. The Internet is a technology as ordinary as television to this group and the Web is an information necessity.

There's an adage that goes like this: Technology is what happened after you were born.

20. Among 18- to 24-year-olds in the United States, **12 percent** rely solely on wireless phones for communication, and that number is expected to increase by **28 percent** over the next five years. Yankee Group as reported in *CIO Magazine* (August 19, 2003).

The freshman class of 2003 grew up with computers, multimedia, the Internet and a wired world. Twenty percent of them began using computers between the ages of 5 and 8. By the time they were 16–18 **all** of them had begun using computers.[21] Their world is a seamless "infosphere" where the boundaries between work, play and study are gone. Computers are not technology and multitasking is a way of life. This generation of young adults mixes work and social activities, and the lines between workplace and home are blurred. The compartmentalization of leisure activities from work activities that their parents still mostly adhere to is largely unknown to the current group of college students. "Today's digital kids think of information and communications technology (ICT) as something akin to oxygen: they expect it, it's what they breathe and it's how they live. They use ICT to meet, play, date and learn. It's an integral part of their social life; it's how they acknowledge each other and form their personal identities. Furthermore, ICT to some degree has been supporting their learning activities since their first Web search and surf years ago."[22]

A significant indicator of the collaborative, synchronous world that lies alongside the asynchronous one adults inhabit is the amount of "gaming" among students as reported by a recently released Pew report.[23] Sixty-five percent of college students surveyed reported playing video, computer or online games regularly or occasionally. This gaming activity is not segmented into a part of the day deemed "leisure." Students report playing games in class, while visiting friends, while instant messaging and in between doing schoolwork. They do this using any convenient computer. The report concludes that students are taking their leisure "in sips, rather than gulps" and suggests that not enough research is being done on what this "always on" interactive and seamless world implies for the future of work and entertainment. "The rate at which information is assimilated into knowledge and knowledge is synthesized into new forms [...] is vastly more multidimensional than the 19th century paradigm of classroom instruction."[24]

Contrast this seamless world with what students experience at most libraries. Despite the increase in "information commons" in academic libraries and banks of publicly available computers in public libraries, libraries frequently designate different computers for access to content as they do for e-mail and writing papers. And even if this is not the case, there are almost always separate spheres of information presented: "Web resources," "article databases," "online catalog." And once inside these spheres, the

There's a seamlessness to the interactions of young people. Their academic, social and community lives are merged. But library environments still cater to our generation with separate spheres of information. We have to figure out how to be relevant.

Director, Public Library

Interactivity is a hallmark of young people's lives. They live in a collaborative world that doesn't exist for adults.

Director, Public Library

21. Steve Jones et al., *The Internet Goes to College: How Students are Living in the Future with Today's Technology* (Washington, D.C.: Pew Internet & American Life Project, 2002), 2. www.pewinternet.org/reports/pdfs/PIP_College_Report.pdf.
22. John Seely Brown, "Learning in the Digital Age," In *The Internet and the University: 2001 Forum,* edited by Maureen Devlin, Richard Larson and Joel Meyerson, 65–91 (Boulder, CO: EDUCAUSE, 2002): 70.
23. Steve Jones et al., *Let the Games Begin: Gaming Technology and Entertainment Among College Students* (Washington, D.C.: Pew Internet & American Life Project, 2003), www.pewinternet.org/reports/pdfs/PIP_College_Gaming_Reporta.pdf.
24. J.C. Herz, "Gaming the System: What Higher Education Can Learn from Multiplayer Online Worlds," In *The Internet and the University: 2001 Forum.* edited by Maureen Devlin, Richard Larson and Joel Meyerson, 169–191 (Boulder, CO: EDUCAUSE, 2002): 173, www.educause.edu/ir/library/pdf/ffpiu019.pdf.

information seeker is often presented with brand names: Newsbank, ProQuest, WebCat. Given the characteristics of young adults suggested above, it is perhaps not surprising that Pew reports 73 percent of college students said they use the Internet more than the library.[25]

"Librarians are put in the unfortunate position of telling people to eat their spinach, that fast food searching isn't enough. But if a vendor could deliver quality material through Google interfaces, they would have an advantage."[26]

The Anatomy of a Gamer

Profile:

Male, age 20

College Student, University of Toronto

Asian Studies major

Learning Style:

Socially contextual learning and peer-to-peer learning

Affiliations:

Soccer club

Founding member of the Gaming Club, University of Toronto

"We are a group of individuals who enjoy strategy games. The club exists to provide a forum for us to get together and indulge in such pastimes as Dungeons & Dragons, Magic: The Gathering and Diplomacy. We encourage any interested people to come out and join us."

(Source: This club description is on the student affairs site at the University of Toronto, July 2003.)

Favorite pastimes:

Biking

Music

"Gaming the System"

For years, computer games flourished in academic computer labs. Ironically, although they were never sanctioned activities, games provide a social nexus for undergraduates and graduate students to cluster and explore difficult issues or situations.

As computers moved out of the lab and into the living room, budding programmers dedicated their time (and sometimes dropped out of school) to create games for a burgeoning class of enthusiasts. Their products were fly-by-night programs, built quickly and shared freely. When the Internet became available in the early 1990s their already robust bulletin boards, magazines and modem culture migrated onto the Net. After Id Software opened the source code of Doom level editors in 1994, player modifications exploded and the gaming phenomena was born. By the end of the millennium, nearly every strategy game and combat game on the market had a built-in editor and tools to create custom characters or scenarios. Driven by the human desire to compete and collaborate, and a dynamic, distributed ecosystem of official games sites, the gaming industry flourished.

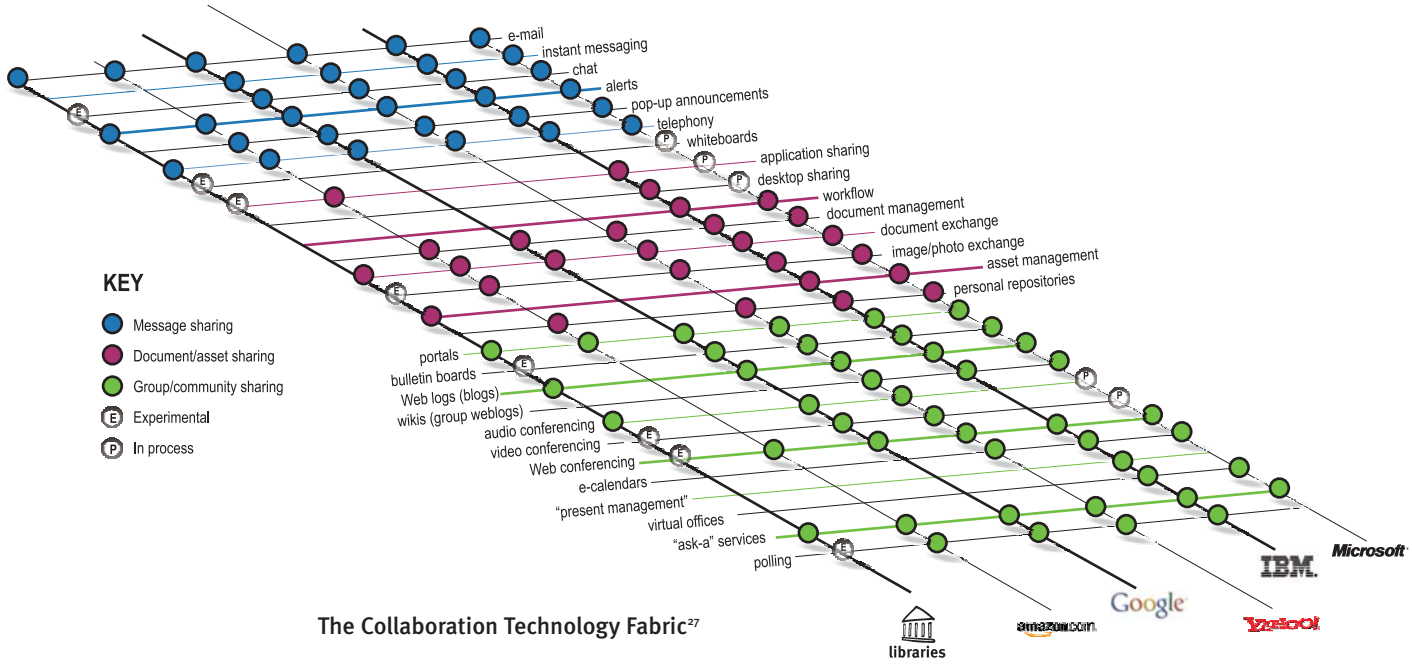
Today, some 65 percent of college students report being regular or occasional game players (Pew study). Better tools, faster machines and better collaboration are driving new levels of involvement. If a gamer doesn't understand something, a continuously updated, distributed knowledge base maintained by a sprawling community of players is available to learn from. "Newbies" are taught by more skilled and experienced players. Far from being every man for himself, multiplayer online games actively foster the formation of teams, clans, guilds and other self-organizing groups. The construction capabilities built into games allow players to stretch their experiences in new and unexpected directions to extend the value of the game. The rate at which information is assimilated into knowledge and knowledge is synthesized into new forms is vastly more multidimensional than the 19th century paradigm of classroom instruction.

Herz, J.C. "Gaming the System: What Higher Education Can Learn from Multiplayer Online Worlds." In *The Internet and the University: 2001 Forum*. Edited by Maureen Devlin, Richard Larson and Joel Meyerson, 169-191 (Boulder, CO: EDUCAUSE, 2002). www.educause.edu/ir/library/pdf/ffpiu019.pdf
J.C. Herz's e-mail is jc@joystick nation.com.

25. Steve Jones et al., *The Internet Goes to College,* 12.
26. Rich Wiggins quoted in Barbara Quint, "ProQuest Introduces PQNext Interface," *Newsbreaks & the Weekly News Digest (*August 4, 2003), www.infotoday.com/newsbreaks/nb030804-2.shtml.

The strong interest in more collaborative, seamless environments has not gone unnoticed by information sector companies. Many large software and content providers are building integrated platforms and suites of software to allow for the exchange of information, enable commerce and support new and dynamic forms of collaboration. One-to-one, one-to-many and many-to-many exchange mechanisms are becoming embedded in the general communication devices and software that consumers use. Amazon, Google and Yahoo are actively embedding these new collaborative technologies in the services.

Libraries are not using many of these collaborative technologies.



The Collaboration Technology Fabric[27]

In the old days the library was it—there weren't many other choices. Today, that is not the case.

Director, OCLC Regional Service Provider

27. Please see "Sources" on p. 147 for sources consulted.

Every Jack in his Jeep, every Jill in her Hyundai, Is communing like mad with the Spiritus Mundi:

Geoffrey Nunberg

Self-sufficiency, satisfaction, seamlessness

In late October 2003, without much corporate fanfare, Amazon released a "search inside" feature that allows full-text searching of about one quarter of a million e-versions of print books. This is about as many titles as a physical bookstore has, and a great deal less than many libraries own. Amazon is the first commercial entity to offer full-text searching at no cost (although it requires searchers be registered Amazon customers). At bottom, the feature is meant to help Amazon sell more books, something Amazon is quite up-front about. But, the significance of Amazon's full-text search feature is not so much about the cool technology behind the feature, or about content. The significance is about self-sufficiency, satisfaction and seamlessness. In other words, the "Aha!" factor is not about technology; it's about what can be done *with* the technology. Stephan Levy of *Newsweek* wrote: "It's a lightning bolt from the future. Some people literally broke out in tears as they punched in queries and unearthed obscure but relevant citations."[28]

Predictably, this feature was met with negative and positive reactions. On the negative side, people worried that only big publishers would be able to participate, further alienating small and niche publishers, or that searchers would pirate copy, or that the information consumer would now use Amazon for research in lieu of libraries' much larger collections. On the positive side, people heralded this move as a way to rejuvenate access to and use of out-of-print material, as a powerful adjunct to research, and as a new way to link readers with their interests. Karen Schneider, well-known among librarians, wrote on her blog, *Free Range Librarian:* "I heard repeated reference from presenters and keynoters [at the Internet Librarian conference] to the significance of Amazon's new Search Inside the Book feature, confirming my own gut reaction that this is big, really big, in ways we don't yet understand or appreciate."[29]

Newsweek's Levy captures one of the ways in which this is big: "The ability to record events was a transforming development for our entire species. But until very recently—until the Web—the vast collective documentary created by humans has always been limited because the works we created were so difficult to access."[30] Book titles can never capture the nature of the content in books, and even good subject cataloging is limited to providing broad brush strokes about content. But titles and subject headings do not help people differentiate among similar sounding books. And this is where full-text searching can expose useful and relevant content that is invisible using title and subject searches. As librarians know, the more specific the term, the more likely a full-text search will be successful. So, searching for "amazon" in Amazon returns almost 14,000 book titles and excerpts on the river, the company, female warriors and the children's book *Swallows and Amazons*. Searching for "Boadicea" returns 434 titles, including *Personal History* by Katharine Graham of *The Washington Post* fame. She relates on page 15 that her mother was asked by the sculptor Rodin to pose for a statue of Boadicea. Who knew? "That's why the advances of Google and Amazon are so profoundly important. They are harbingers of a new kind of history, where

28. Stephan Levy, "Welcome to History 2.0," *Newsweek,* (November 10, 2003): 58.
29. Karen Schneider, *Free Range Librarian,* (November 9, 2003), http://frl.bluehighways.com/frlarchives/000097.html.
30. Levy, "Welcome to History 2.0."

the world's information is not only more plentiful and diverse, but astonishingly accessible."[31] Won't it be nice when an advance in the library community is so well-covered and greeted with such warmth?

"[A] seamless customer experience across channels will often require internal enterprise priorities, processes and management responsibilities to be redesigned, which may be just as difficult to implement as the technology aspects."[32]

The information consumer is ready.

Implications

- Seamlessness is an information consumer expectation. *How could libraries be redesigned to provide a "seamless customer experience"? How could information service providers themselves provide a seamless customer experience?*
- Users will continue to use the Web and search engines to find and retrieve content and information. *Should library content and metadata be exposed in general Web search results?*
- The current virtual library and library-based content is not most searchers' first stop. *How can libraries and information service providers enter users' spaces instead of making them come to our spaces?*
- Subject boundaries are increasingly self-defined, on-the-fly. *How do we keep the benefits of metadata and classification while making them invisible?*

31. Ibid.
32. J.Fenn, "Self-Service From 2003-2013," *Research Note,* SPA-18-9637 (Stamford, CT: Gartner, Inc,. December 3, 2002): 1.