

THE What's out there
and what it means
for libraries

PARALLEL INFORMATION UNIVERSE

By Mike Eisenberg

The Web 2.0 “buzz” starts with new technologies such as virtual worlds, cell phones and handheld devices that offer 24/7 web access, tagging, social networks, and blogs and brings together various web capabilities in unique combinations (known as “mashing”—such as maps that also include the latest real estate property assessments). But Web 2.0 is about much more than the technology—it’s about a change in focus to participation, user control, sharing, openness, and networking.

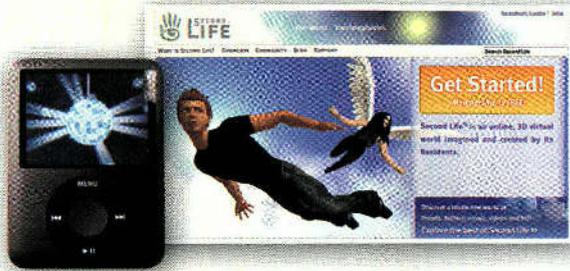
Pulled together, these technologies are a “parallel information universe” next to our own universe. This parallel universe provides us with constant feedback, resources, monitoring, information, connections, education, and interaction. It can be individualized and personalized, and we can interact individually or collectively with it. The key for libraries is that this is a parallel *information* universe. Libraries—as institutions founded on meeting people’s information needs—need to take the lead in this parallel information universe. Some libraries are diving in already, but the library world as a whole must engage with these developments and determine how we can use them to meet our users’ information needs better.

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At the recent American Library Association (ALA) Midwinter Meeting, however, visionary (and director of the Coalition for Networked Information) Clifford Lynch cautioned against getting too hung up on technology fads. Now, I’m a big Cliff Lynch fan, so when he talks, I listen. In relation to libraries setting up pages in MySpace, Facebook, and Second Life, he said, “I find myself wondering if the libraries are clear on what they want to accomplish by going there and not just hopping on the next-trend bandwagon. I think it’s important to recognize that there are costs—certainly opportunity costs—to setting up these presences” (*American Libraries*, March 2007).

This advice reminded me of another Clifford, Clifford Stoll, author of *Silicon Snake Oil*. Stoll made a lot of noise (and probably a good deal of money) on the lecture circuit railing about how technology was overrated and how we were being sold a bill of goods; for example, wasn’t the card catalog far superior to the online catalog?

Certainly, there’s truth in what Stoll said: technology can be overhyped, and, yes, the notations and analytics on a catalog card were useful for the few who even knew they existed. But Stoll was mostly and overwhelmingly wrong. Developments such as word processing, electronic spreadsheets, networks, email, the web, and Google better meet the



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needs of people than the manual systems that came before.

Regardless of type—public, academic, school, or special—libraries increasingly provide more people with improved access to a wider range of resources and services. Beyond the improved catalog, for example, electronic databases are superior to printed periodical indexes, digital reference provides expanded availability to assistance by librarians, and networked computer workstations in the library provide users with access to global multimedia resources.

There's much more potential. That's the purpose of this article: to take a look at what's out there (WOT) and do a brief analysis of strengths, weaknesses, opportunities, and threats (SWOTs) in terms of what's good, interesting, or desirable for users (including those whom we might currently label non-users), libraries, and librarians and the implications for library and information science education.

Strengths, weaknesses, opportunities, threats

Virtual Worlds: Second Life Imagine interacting in a live, animated cartoon—that's Second Life. Users fashion their own characters, called avatars, and create or alter the places and objects in Second Life itself. They converse via chat in real time, and there are planned events and activities in various places—including the library on "Info Island." An entire economy has developed around Second Life that allows users to purchase and develop their own real estate. Part game, part communication system, part cartoon, Second Life offers much richer contact than traditional text-based chat.

STRENGTHS Users feel as if they are together in the same place in Second Life. This is different from other forms of conferencing, particularly video, where the distance can seem exacerbated. Second Life also allows for creativity and flexibility; individuals or groups can construct whatever environment they wish and provide information, ideas, and experiences. It is also collaborative and growing, as users continually add resources, places, and objects—some replicate interesting real-world environments.

WEAKNESSES Second Life's emphasis is on the entertainment

and gamelike aspects. Also, users spend a great deal of time and effort in creating and adjusting a personal avatar, learning how to move around, and discovering the nature and conventions of this virtual world. This interaction can be fun, but it is likely to be frustrating for those who are more interested in applications for education or business or providing social or other services. There are also no standards across virtual world applications, although Second Life creators, Linden Labs, recently announced that the software platform will be available as open source.

OPPORTUNITIES Second Life and other virtual worlds offer many new opportunities for libraries in terms of using virtual worlds to provide services and resources to the real world and providing services and resources as part of the virtual environment. (A few libraries—among them the Public Library of Charlotte and Mecklenburg County, NC; Alliance Library System, Peoria, IL; and Topeka and Shawnee County Public Library, KS—are forging the way, primarily with teen services.) Second Life offers a much richer graphic and chat environment in which librarians can interact with online users to offer digital reference services. Librarians can also use the animation environment to represent existing real-world library collections.

Even more interesting may be the opportunity to provide new levels of library experience in the virtual world. For example, imagine "walking" into the virtual world representation of your library in order to study. You are immediately shown to your "virtual study carrel," where you gather various resources—print, graphic, audio, and video. As you expand your investigation, your carrel expands, too. You have the full range of library collections and tools at your disposal as well as librarians to help you search for and use information. The virtual library carrel becomes the focal point for your studies. Eventually, it might even become a public display space for you to share your knowledge with others. Such capabilities offer opportunities for library education as well, since the rich, multimedia, animated environment is able to improve the distance learning experience.

THREATS Virtual worlds come with the same safety and credibility limitations of other digital networked systems. In addition, there are concerns about a realistic return on investment. Although there is no baseline cost for participating in Second Life, free isn't necessarily "free"—there are start-up and continuing expenditures in terms of time, effort, and money. Those investments can be rendered useless if something new comes along or if the system gets abandoned. However, there is also a downside to not taking action if Second Life becomes very popular and libraries aren't involved. This cost-benefit concern is a threat in relation to any technology.

Social Networking: MySpace, Facebook Social networks are Internet-based communities of people who wish to share information and communicate with others for friendship or entertainment or out of shared interest. Two of the most popular social networks today are MySpace, aimed at all ages, and Facebook, targeted at college and high school students. MySpace reports more than 100 million members and Facebook over 19 million. People seem to be drawn to social networks to connect, communicate, share, and conduct personal publishing. Social networks provide for a range of functions, including the means to converse, store multimedia files, identify interests and ideas with keywords, and designate a subset of members. The heart of the web-based social network is the personal profile—a listing of interests, contact information, pictures, or more elaborate multimedia information that the member wishes to contribute.

STRENGTHS Social networks offer a new way to organize personal and group information. They are particularly popular with youth of all ages. I've heard college students say that their social networks are a must for dating and that their network is more important than email for communicating and managing their personal data. Social networks provide a rich and interactive experience for members and seem to meet human social needs. They also facilitate forming and maintaining groups of common interests and information sharing about these interests.

WEAKNESSES There is no interaction among the various social networking systems. A Facebook user wishing to interact with a group on MySpace has to set up an entirely new profile. As with other systems, security and privacy are also concerns. Additionally, once someone posts on a social network, it's there for the world to see. There persists the concern of misrepresentation by members.

OPPORTUNITIES Social networks provide an important vehicle to reach important users—upper youths, teens, and twenty- and thirtysomethings. Libraries currently support various real-world groups by providing space, resources and information services, education, and organizing assistance, and many are already experimenting in these social networks. (See www.libsuccess.org/index.php?title=Social_Networking_Software for some examples and best practices.) But most libraries could easily do much more for these digital communities. Librarians must learn more about these users and their needs and can do so by participating in social networks, perhaps by offering digital reference services. Libraries need to set up their own social network to serve users. Lastly, libraries might adopt some form of digital social networking as a service itself, for example, by providing instruction in how to become involved and use social network systems.

THREATS The primary threat related to social networks involves safety and trustworthiness. This became clear during Kids Speak Out, a forum on technology in the lives of middle school students held in Seattle in April last year. Numerous parents and caregivers asked questions or offered comments about safety. The

young people themselves seemed less concerned, noting that they were careful in revealing personal statistics and that they didn't trust the information posted by those they didn't know. All students who participated in social networks only did so within a selected subset of friends. In terms of libraries, involvement in social networks poses the same time, effort, and money cost-benefit threat as do the other technologies.

Personal Digital Devices "I love my iPod." Of all the technologies mentioned by the middle school students in Kids Speak Out, no device was more cherished (emotionally and functionally) than the iPod. Cell phones were considered important, but it was the iPod that they "loved." Walk around any college campus, and it seems that every student goes about their business to a personal soundtrack. These personal digital devices—Blackberrys, cell phones with cameras and other functions, personal digital assistants (PDAs), and, of course, iPods (or similar MP3 music devices)—how did people ever get along without them?

STRENGTHS Collectively, these items are personal technologies for receiving and experiencing various forms of information—audio, photos, video, text messages, and emails. Yesterday's cutting edge was a cell phone with a digital camera; today it's a combination Blackberry (the 8800 Smartphone) with streaming audio/video and a GPS. Putting aside the dizzying array of options, the importance is the increasing potential to deliver content directly to a wide range of individuals—any time, anywhere (almost), and in any form. While there are dif-

ferent networks and some competing standards, for the most part it is possible to interact and share across platforms. Use is on the rise: cell phone users in the United States have increased from 34 million a decade ago to more than 203 million in 2006; worldwide there are an estimated two billion cell phones. We all know people who carry multiple devices.

WEAKNESSES The constant change in models and capabilities is problematic for content providers, including libraries, and for end users. It can be hard to keep up. Similarly, while there is some interoperability, considerable incompatibility remains. For example, Apple's iPod can read MP3 and other formats, but Apple's iTunes format is proprietary, and Real Networks has

similar restrictions on format. There are also the more serious issues of cost and availability. The devices themselves cost money, as does connectivity. Intellectual property and access concerns are raised by the proprietary nature of the content and services, which can involve significant expenses for users. This weakness represents a new location for the digital divide.

OPPORTUNITIES This platform for the delivery and use of digital content provides an extraordinary opportunity for libraries to serve users at the point of demand. It's also an opportunity to reach nonusers. In addition, libraries can play a major role in expanding access to those who may not be able to pay for resources, services, or even devices. A number of libraries

REPRESENTATIVE CUTTING-EDGE/ WEB 2.0 TECHNOLOGIES

TECHNOLOGY	EXAMPLE
3-D Virtual Worlds	www.secondlife.com
Collaborative spaces	www.flickr.com www.youtube.com www.wikipedia.org
Games	www.worldofwarcraft.com
Long tail services and products	www.Netflix.com www.amazon.com www.apple.com/itunes
Optimized search	www.google.com www.tellme.com
Personal digital devices	iPod, PDA, Blackberry, cell phone
Social networks	www.MySpace.com www.FaceBook.com
Tagging and folksonomy	del.icio.us

are already offering content for download onto these digital devices, some are supplying the devices themselves as well, and Abilene Christian University, TX, just announced it will give iPhones or the iPod Touch to all incoming students to communicate with them (though the library role in this effort is yet undefined). Furthermore, those of us in library and information education and policy settings can seek to study and resolve the larger policy and equity concerns.

THREATS If the library field remains largely uninvolved or complacent, it is possible for commercial interests to shape the

LIBRARIANS MUST BE VIEWED AS CHAMPIONS OF NEW FORMS OF INFORMATION AND ACCESS

use of digital devices in terms of control of access, delivery, and content. For example, restrictive intellectual property rulings could narrow libraries' ability to share resources. Libraries need to move quickly to address equity issues, to push for openness and interoperability in digital rights management (DRM), and to provide resources and services via these tools.

The above are just three of the exciting technological developments for libraries. Other innovations that hold similar promise include tagging, search, personal publishing, and the recognition of the "long tail" (for more on these see the web version of this article at www.libraryjournal.com).

It's an information world

The major lesson for librarians from all this is that "it's an information world out there!" More and more, it's not about the technology; it's about information—finding, using, creating, combining, sharing, and evaluating it. There is an underlying information base to every aspect of life and a need for information institutions in society—that is, libraries. Libraries must continue to play our traditional role, but we also need to assume responsibility for being the information institutions in our communities and organizations.

The new capabilities offer exciting prospects for each traditional library function, for example:

COLLECTIONS In addition to providing expanded digital collections, entirely new types of collections are possible through tagging (Del.icio.us), personal production of content (YouTube), and sharing (Flickr). These are desirable because that's what people need and want. To me, a "collection" is "a prediction of future need." The need for users—today and tomorrow—is for libraries to play a role in offering a wide range of quality and credible collections both in the physical library and in cyberspace. One major area to be worked out is the relationship with commercial efforts, such as the Google Books Library Project.

ACCESS Libraries have a major role to play as one of the great equalizing forces in our society. The digital divide will not go away anytime soon. Even with broadband Internet access in the home, there will be a need for public access to networks, and there will always be a need for access as capabilities and functions emerge and expand. Libraries, for example, might provide access to high-quality, high-priced digital resources in the physical library, in virtual space, and on digital devices and, when needed, provide the digital devices themselves.

PLACE The library as a physical place must extend well into the virtual space—in social networking communities, across web sites of all kinds, on any form of digital device, and in new virtual worlds such as Second Life.

SERVICES The innovative technologies described here provide unique environments for expanding baseline library services, for reaching new audiences and providing decidedly new services. Clearly there also are all kinds of implications for duplicate resources, access, policy, and education.

SEARCH Search is fundamental to the business of libraries. Browse is important, but search is essential. Over the years, libraries have expended great effort in search, but library search pales next to Google and other web-based search engines. The simple but powerful "Google search box" is a model for what we need in libraries—beyond federated search, this means one-step immediate access to the full text of library resources. We can claim success when people use the library search as readily, easily, and often as they do Google.

Next steps

In terms of specific recommendations for the future: Librarians need to keep abreast of the latest in technology. This includes having an open and accepting attitude toward technology. We must be viewed as champions of new forms of information and access.

We should team up to provide better access, resources, and services—well beyond traditional interlibrary loan, and collaborate among libraries and other info agencies, with state libraries, regional and national consortia, networks, and even with vendors. Vendor products are often the first link between libraries and the public, and we need to work closely with them to ensure that they provide what we, and our users, want.

Across the profession, with leadership from ALA, librarians should focus on proactive information policy to make it possible to offer expanded services, resources, systems, and access. This must include new forms and capabilities in cyberspace. We should focus on increasing, not restricting, use.

Don't wait. Yes, be cautious, especially when it comes to allocating resources, time, and effort. But also experiment, do something!

- **Libraries:** offer some services in, through, or about technology. Choose one, survey users, team up with others.
- **LIS education:** employ technology, beyond PowerPoint, in all courses.
- **ALA:** stop the infighting and focus on the big information in society issues.
- **ALA's Office for Information Technology Policy:** help to promote/draft visionary policies. Lead proactively—advocate for libraries as the major societal information institution.

My last recommendation is to have some fun with all of this. It's a wild and wonderful information playground out there, and we shouldn't be afraid to enjoy it as we work on our systematic approaches, analysis, planning, and evaluation.

So while I agree with Clifford Lynch that we should be cautious and skeptical about new technologies, I'm sure he would agree that librarians can't be complacent. The World Wide Web itself didn't exist before 1994. Google is less than ten years old. We must be open to new possibilities and think creatively, entrepreneurially, and, yes, even playfully. ■



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