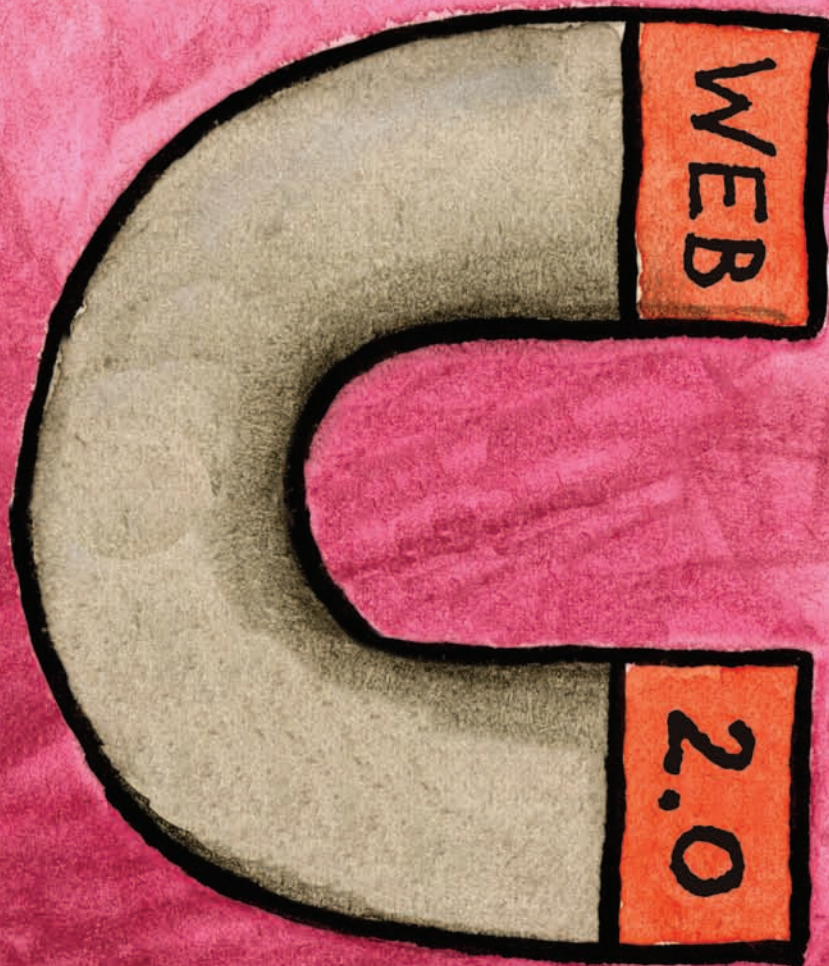# U.S. Public and Web 2.0:

## What's Really Happening?

Libraries

'2.0' is just the beginning—public libraries will continue to evolve in an effort to give their patrons the best service possible.

by Zeth Lietzau

In the last few years, technology-savvy librarians have begun turning their attention to a host of new tools to connect with their users and colleagues. The umbrella term for these new technologies—Web 2.0—began gaining traction in 2004. Many librarians were quick to embrace the new wave of technology. Early adopting libraries used blogs to initiate contact with their patrons, wikis to collect information, and social networking sites to connect with each other and their communities. The trend was strong enough that in 2006 ALA TechSource published a Library Technology Report titled "Web 2.0 and Libraries: Best Practices for Social Software" and followed that
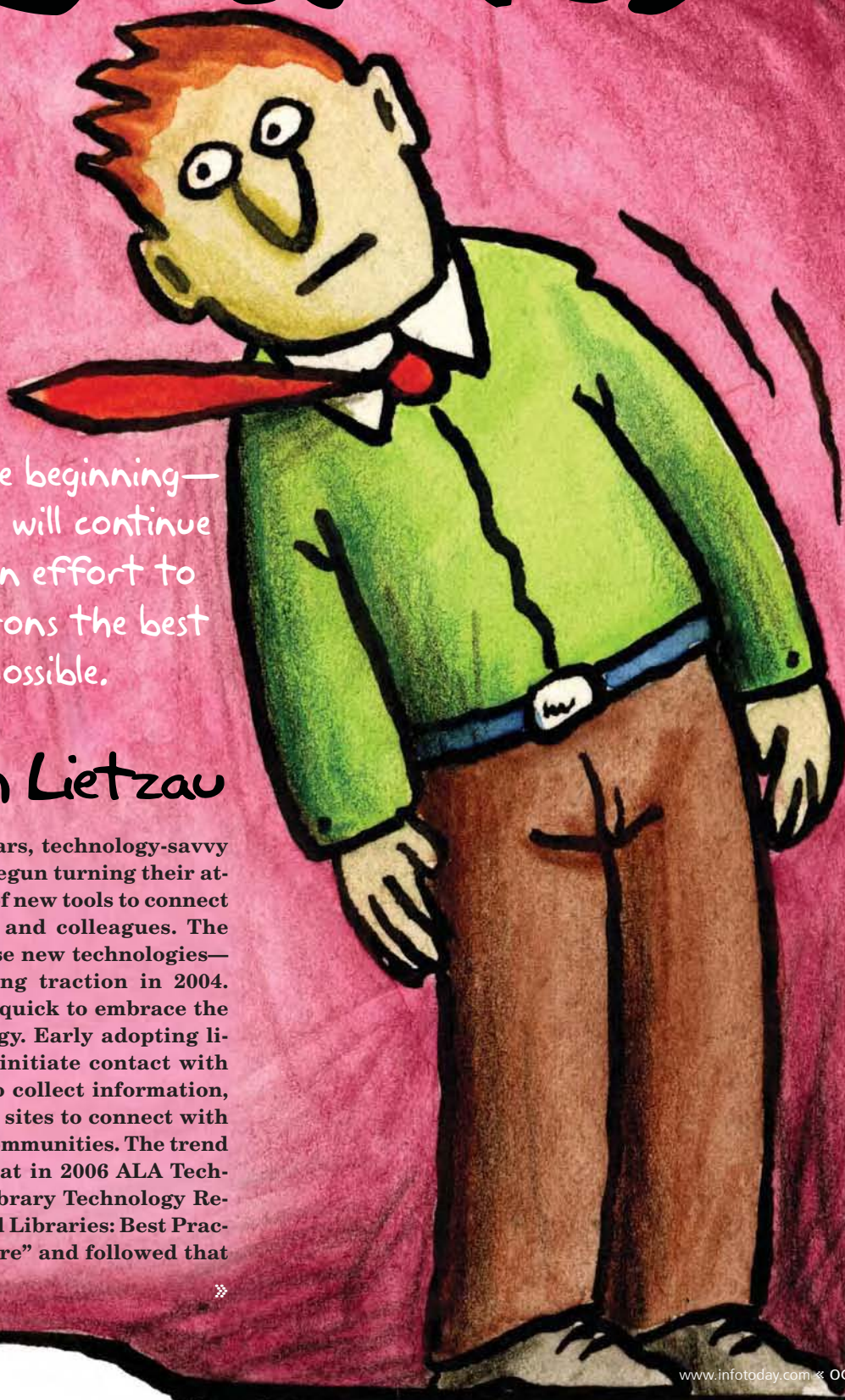
Only about 1% of public libraries

up with a 2007 update, "Web 2.0 & Libraries, Part 2: Trends and Technologies." 2007 was also the year that the Internet Librarian conference built its theme—2.0: Info Pros, Library Communities, & Web Tools—around the concept of interactive technologies.

Against this backdrop, Colorado State Library's Library Research Service (LRS), where I serve as associate director, undertook the study "U.S. Public Libraries and the Use of Web Technologies" in the spring of 2008. Among the extensive discussions revolving around best practices for implementing Web 2.0 tools in public libraries and the multitude of examples of how to reach out to users via these new technologies, there seemed to be a hole in the literature. Nobody was talking about *how many* libraries were adopting 2.0 technologies or how those libraries differed from their peers who were not venturing down this path.

The Purpose of the Study

The purpose of LRS's study was threefold: 1) identify the proportion of public libraries in the U.S. that were adopting a specific set of web technologies, 2) determine how these libraries differed from their peers, and 3) attempt to determine whether the early adoption of web technologies can help drive library success, as defined by traditional statistical measures of public library achievement. In other words, we wanted to determine which libraries were adopting 2.0 technologies, how "successful" those libraries were, and whether adoption of these technologies was contributing to that success.

To accomplish this, we pulled a sample of public libraries in the United States from the 2005 IMLS Public Library report (at the time of the study, this was the most recent national data available). With the understanding that different sized libraries behave in dif-
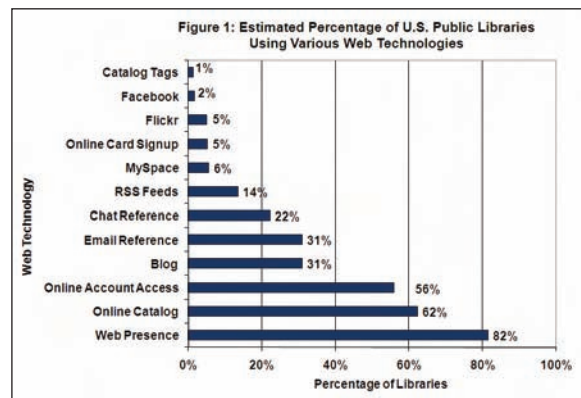

Figure 1

ferent ways, the sample was stratified by size. One hundred libraries were randomly selected from each of the following population groups—under 10,000; 10,000–24,999; 25,000–99,999; and 100,000–499,999. Additionally, all 83 public libraries serving at least 500,000 people were included in the sample. LRS staff then visited the websites of all 483 libraries in the sample, looking for the presence of specific web technologies, ranging from simply having a website to the existence of blogs, wikis, and other newer technologies. We also searched for the public libraries' presence on MySpace, Facebook, and Twitter, searching both the public libraries' websites as well as using the search functions of these social networking sites.

Study Results

By 2008, there was almost a sense that the implementation of 2.0 technologies in public libraries was a given. That year's Internet Librarian conference was themed, Beyond 2.0: User-Focused Tools & Practices. The Computers in Libraries conference had moved past 2.0 an entire year earlier, with the 2007 theme of Beyond Library 2.0: Building Communities, Connections, & Strategies. Indeed, progressive libraries were using more sophisticated methods of reaching their communities, moving into realms such as social catalogs in an effort to

engage patrons in conversation. But how prevalent was the use of 2.0 technologies on public library websites in the U.S.? Based on our research done in early 2008, it doesn't look like the reach had extended very far.

We extrapolated from our sample to estimate the percentage of libraries using various web technologies. As Figure 1 shows, the only web technologies that more than half of the public libraries in the U.S. possessed were three things that now seem as basic to public library service as books—a web presence, an online catalog, and online access to the patron's account. We did not find the presence of any of the newer 2.0 technologies in more than a third of public libraries, and a lot of these technologies—especially those that truly encouraged patron input—were virtually nonexistent. Only about 1% of public libraries allowed users to tag items in their catalogs, and the social networking sites we studied only attracted around one in 20 public libraries.

It is important to note that Figure 1 represents estimates for the percentage of all library jurisdictions that had implemented specific technologies, meaning that it is heavily influenced by the abundance of very small public libraries in the U.S. Nearly 60% of public libraries in the country serve fewer than 10,000 people. These smallest libraries tend to lack the resources of their larger peers and, not surprisingly, were the least likely group to have ventured into any of the web technologies that we studied. In fact, only 73% of the libraries in this population group had a website that we were able to locate, and fewer than half of them provided access to their online catalogs. These numbers paled even in comparison to the group in the second-smallest population range—10,000–24,999 people served—where 88% had a web presence and 82% provided

allowed users to tag items in their catalogs.

access to an online catalog. Despite the growing presence of virtual reference cooperatives, only about one out of eight (13%) libraries serving fewer than 10,000 patrons provided a chat reference option from their websites, and only 22% offered email reference. If there was one area where the smallest libraries were on more equal footing with the big guys, it was in the adoption of blogs. Nearly one in three (32%) public libraries serving fewer than 10,000 people had at least one blog on their websites, virtually the same percentage as all libraries serving fewer than 100,000.

On the other side of the spectrum, we found that larger public libraries seemed to have almost universally adopted basic web technologies and were starting to slowly move into Web 2.0. We found a web presence for all but one library in the group that served at least 25,000 people, and we found one for every library serving 100,000 or more. Among the very largest public libraries—those in communities of at least 500,000—every public library provided access to its online catalog, as well as online access to its patrons' library accounts. Turning to 2.0 technologies, the larger the community served by the library, the greater the likelihood of adopting the various technologies, but only the very largest public libraries were active participants in all the technologies. While nearly three out of four of these largest libraries (72%) provided chat reference to their patrons, fewer than half of the libraries in each of the other population groups did so. As for adopting blog technology, the 500,000 and above group was again the only one where we found a participation rate of more than half—we found a blog on 57% of the websites for this group, compared with only 39% for libraries serving between 100,000 and 499,999 people.

Even members of the largest group proved to be slow to immerse them-selves in social networking. Thirty percent of the largest libraries had Flickr or MySpace accounts, and only 11% had a place on Facebook. The likelihood of a presence on any of these social networking sites dropped precipitously as the size of the community served by the library shrunk, with only a handful of the smallest public libraries existing on any social networking site.

Larger libraries, then, were more likely to be involved in exploring web technologies than smaller ones, even if they were not as active as some of us might have believed. This being the case, it becomes clear that Figure 1 does not tell the whole story. While it portrays the percentage of libraries in the U.S. that are using various web technologies, it does not capture the likelihood that any particular patron is served by a library using these technologies. The 83 libraries serving at least 500,000 people represent less than 1% of the library jurisdictions in the country, yet they serve nearly 30% of the people. Conversely, the nearly 60% of public libraries with fewer than 10,000 patrons serve only about 7% of the population.
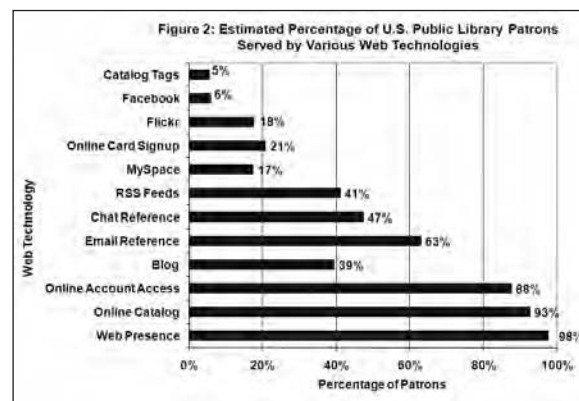

Figure 2

Figure 2 represents the estimated percentage of patrons whose local public library offers various web technologies. Compared with the percentage of libraries implementing these technologies in Figure 1, it suggests a more mature implementation of the various web technologies. Almost all patrons can find

their libraries on the internet, and most can access their libraries' catalog and their own accounts. In addition, a majority can reach out to their libraries virtually to ask an email reference question. Again, these are not new technologies, and in most places one would reasonably expect the public library to have a website and email. In terms of more recent technologies, and those that encourage more immediate patron interaction, there is still a long way to go before we see ubiquity. Chat reference is the most prevalent service, with nearly half of the patrons in the U.S. able to connect with their libraries in this manner. In addition, about four in 10 people can get their library's information fed to them via blogs or RSS feeds.

Who Are the Early Adopters?

After surveying the lay of the land and getting a grasp on how widespread a number of technologies were in public libraries, the next step was to find out what set the early adopters apart from their peers. In a word—everything.

We gave each library a score on a 29-point scale based on the library's implementation of the web technologies that were being studied. Primarily, the scale consisted of a checklist of whether or not the library had implemented each technology, though an attempt was made to represent the quality of the data while remaining objective. For example, a library's blog would not be given extra points for being determined to be "good." However, each library received one point for having a blog, another point for having posted to it within the previous 2 weeks (it was shocking how many library blogs consisted of one post published in 2006), and still another point if the blog solicited and received comments from the community.

Within each population range, the highest scoring 20% of libraries were

then labeled as early adopters. Using the IMLS national public library data set, we compared the early adopters with their peers using every ratio reported by IMLS. As a group, public libraries classified as early adopters had significantly higher per capita ratios than their peers in nearly everything.

Libraries that were getting involved with the technologies we studied had about 50% more librarians and other staff than their peers. They were also better funded, receiving an average of $36.24 per capita annually in local income, compared with an average of $23.72 for the other libraries included in our study. Obviously, better funding and more staff make it easier to implement technology within a library. But what did this mean for the patrons?

Ultimately, these libraries were much more heavily used than their peers. Early adopting libraries saw an average of 6.8 visits per person annually, compared with just 4.5 visits for their peers. Visitors checked out more materials, as well—more than 10 items checked out per capita annually in early adopting libraries to fewer than seven in others; children's circulation was 62% higher for early adopting libraries. Reference questions were more than 40% higher, and program attendance was 50% greater in public libraries that were active in adopting new technologies on their websites. In fact, there were only 2 per capita ratios where the early adopters from our study did not considerably outperform their peers—physical books held and public access computers. Early adopting libraries did have higher ratios for these two categories, but the differences were not as marked and were not statistically significant.

It is important to note that these per capita statistics were collected from the 2005 national data file, which means that the data is from a time period 3 years earlier than when

we began the process of looking for the implementation of technologies on public library websites. As such, it is impossible to conclude from this that adding newer technologies to a public library's web presence will drive users to check out more books or attend more programs. Instead, this data tells us that, in general, libraries that have been successful as defined by traditional statistical measures are trying out these new technologies. Leading public libraries have decided to put their resources into the development of new online tools. Determining whether it is worth the effort is another question.
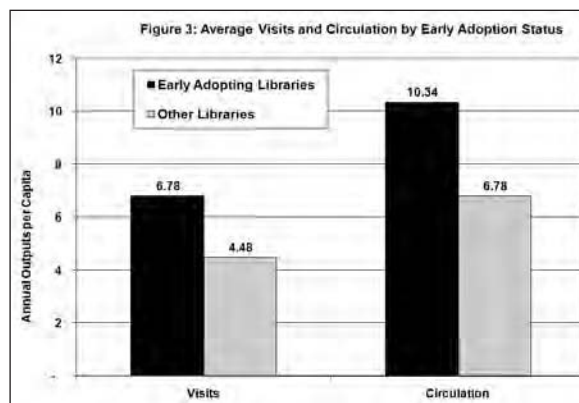

Figure 3

What's Next?

The next phase for the study involves assessing exactly this issue: Does the adoption of newer web technologies by public libraries lead to increases in traditional service? This will be determined by comparing data for traditional services—circulation, visits, etc.—in the study year of 2008 with a baseline year of 2003 and by determining if early adopting libraries are seeing greater increases in these services than are their peers. The baseline year of 2003 was chosen because that will predate the existence of these technologies in most, if not all, public libraries. National public library data for 2008 should be available in early to mid-2010.

In the meantime, LRS will continue to pursue this topic. "2.0" is just the beginning—public libraries will continue to evolve in an effort to give their patrons the best service possible. At the time of this writing, the survey instrument for the second iteration of this study is being developed. It will focus on many of the same technologies addressed in the first study to judge the growth of these technologies in public libraries. As an example, in the year since this study was conducted, the popularity of Facebook has grown immensely. The next iteration of the study will give us more insight into how this trend is affecting public libraries. The second version will also identify technologies, such as Twitter, that were not included in the first study, either because they did not exist or were not believed to have enough of a reach into the public library world to warrant study at the time. LRS expects to repeat this study every 2 years, with the long-term goal of a better understanding of how public libraries are using new technologies, and if such use is translating into library success.

The inaugural edition of this study concentrated primarily on technologies that could be classified as "Web 2.0." Changes in the technology driving the internet and the way people use the web will lead to new terminology. LRS plans to follow these changes closely, in the hopes of providing data that will allow public libraries to make informed decisions about how best to connect with their patrons.

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