Editorial Board Thoughts

<div align="right">Matthew M. Bejune</div>

The June issue of *ITAL* featured a new column entitled Editorial Board Thoughts. The column features commentary written by *ITAL* editorial board members on the intersection of technology and libraries. In the June issue Kyle Felker made a strong case for Gerald Zaltman's book *How Customers Think* as a guide to doing user-centered design and assessment in the context of limited resources and uncertain user needs. In this column I introduce another factor in the library–IT equation, that of rapid technological change.

In the midst of some recent spring cleaning in my library I had the pleasure of finding a report documenting the current and future IT needs of Purdue University's Hicks Undergraduate Library. The report is dated winter 1995. The following summarizes the Hicks Undergraduate Library's IT resources in 1995:

> [The library] has seven public workstations running eight different databases and using six different search software programs. Six of the stations support a single database only; one station supports one CD-ROM application and three other applications (installed on the hard drive). None of the computers runs Windows, but the current programs do not require it. Five stations are equipped with six-disc CD-ROM drives. We do not anticipate that we will be required to upgrade to Windows capability in the near future for any of the application programs.

Today the Hicks Undergraduate Library's IT resources are dramatically different. As opposed to seven public workstations, we have more than seventy computers distributed throughout the library and the Digital Learning Collaboratory, our Information Commons. This excludes forty-six laptops available for patron checkout and eighty-eight laptops designated for instructional use. We have moved from eight CD-ROM databases to more than four hundred networked databases accessible throughout the Purdue University Libraries, campus, and beyond. As a result, there are hundreds of "search software programs"—doesn't that phrase sound odd today?—including the library databases, the catalog, and any number of commercial search engines like Google. Today all, or nearly all, of our machines run Windows, and the Macs have the capability of running Windows. In addition to providing access to databases, our machines are loaded with productivity and multimedia software allowing students to consume and produce a wide array of information resources. Beyond computers, our library

now loans out additional equipment including hard drives, digital cameras, and video cameras.

The 1995 report also includes system specifications for the computers. These sound quaint today. Of the seven computers six were 386 machines with processors clocking in at 25 MHz. The computers had between 640K and 2.5MB of RAM with hard drives with capacities between 20 and 60MB. The seventh computer was a 286 machine probably with a 12.5 MHz processor, and correspondingly smaller memory and hard disc capacity. The report does not include monitor specifications, though, based on the time, they were likely fourteen- or fifteen-inch CGA or EGA cathode ray tube monitors. Modern computers are astonishingly powerful in comparison. According to a member of our IT unit, the computers we order today have 2.8 GHz dual core processors, 3GB of RAM, and 250GB hard drives. This equates to being 112 times faster, 1,200 times more RAM, and hard drives that are 4,167 times larger than the 1995 computers! As a benchmark, consider Moore's Law, a doubling of capacitors every two years, a sixty-four fold increase over a thirteen year period. Who would have thought that library computers would outpace Moore's Law?! Today's computers are also smaller than those of 1995. Our standard desktop machines serve as an example, but perhaps not as dramatically as laptops, mini-laptops, and any of the mobile computing machines small enough to fit into your pocket. Monitors are smaller, though also bigger. Each new computer we order today comes standard with a twenty-inch flat panel LCD monitor. It is smaller in terms of weight and overall size, but the viewing area is significantly larger.

These trends are certainly not unique to Purdue. Nearly every other academic library could boast similar IT advancements. With this in mind, and if Moore's Law continues as projected, imagine the computer resources that will be available on the average desktop machine—although one wonders if it will in fact be a desktop machine—in the next thirteen years. What things out on the distant horizon will eventually become commonplace? Here the quote from the 1995 report about Windows is particularly revealing. What things that are currently state-of-the-art will we leave behind in the next decade? What's DOS? What's a CD-ROM? Will we soon say, What's a hard drive? What's software? What's a desktop computer?

In the last thirteen years we have also witnessed the widespread adoption and proliferation of the Internet, the network that is the backbone for many technologies that have become essential components of physical and digital libraries. Earlier this year, I co-authored an ARL SPEC Kit entitled *Social Software in Libraries*.[1] The survey reports on the usage of ten types of social software within ARL libraries: (1) social networking sites like MySpace and Facebook; (2) media sharing sites like

Matthew M. Bejune (mbejune@purdue.edu) is an *ITAL* Editorial Board Member (2007–09), Assistant Professor of Library Science at Purdue University, and doctoral student in the Graduate School of Library and Information Science at the University of Illinois at Urbana–Champaign.

YouTube and Flickr; (3) social bookmarking and tagging sites like del.icio.us and LibraryThing; (4) wikis like Wikipedia and Library Success: A Best Practices Wiki; (5) blogs; (6) RSS used to syndicate content from webpages, blogs, podcasts, etc.; (7) chat and instant messenger services; (8) Voice Over Internet Protocol (VOIP) services like GoogleTalk and Skype; (9) virtual worlds like Second Life and Massively Multiplayer Online Games (MMOGs) like World of Warcraft; and (10) widgets either developed by libraries like Facebook applications, Firefox catalog search extensions, or widgets implemented by libraries like MeeboMe and Firefox plugins. Of the 64 ARL libraries that responded, a 52% response rate, 61 (95% of respondents) said they are using social software. Of the three libraries not using social software, two indicated they plan to do so in the future. In combination then, 63 out of 64 respondents (98%) indicated they are either currently using or planning to use social software. As part of the survey there was a call for examples of social software used in libraries. Of the 370 examples we received, we selected around 70 for publication in the SPEC kit. The examples are captivating and they illustrate the wide variety of applications in use today.

Figure 1. Responses to the question, "Please enter the year in which your library first began using social software" (n=61).

Of the ten social software applications in the SPEC kit, how many of them were at our disposal in 1995? By my count three: chat and instant messenger services, VOIP, and virtual worlds such as text-based MUDs and MOOs. Of these three, how many were in use in libraries? Very few, if any. In our survey we asked libraries for the year in which they first implemented social software. The earliest applications were CU-SeeMe, a VOIP chat service at Cornell University in 1996, IM at the University of California Riverside in 1996 as well, and interoffice chat at the University of Kentucky in 1998. The remaining libraries adopted social software in year 2000 and beyond, with 2005 being the most common year with 22 responses or 34% of the libraries that had adopted social software. A look at this data shows that my earlier use of a thirteen-year time period to illustrate how difficult it is to project technological innovations that may prove disruptive to our organizations is too broad a time frame. Perhaps we should scale this back to looking at five-year increments of time. Using the SPEC Kit data, in year 2003, a total of 16 ARL libraries had adopted social software. This represents 25% of the total number of institutions that responded when we did our survey. This seems like a more reasonable time frame to be looking to the future.
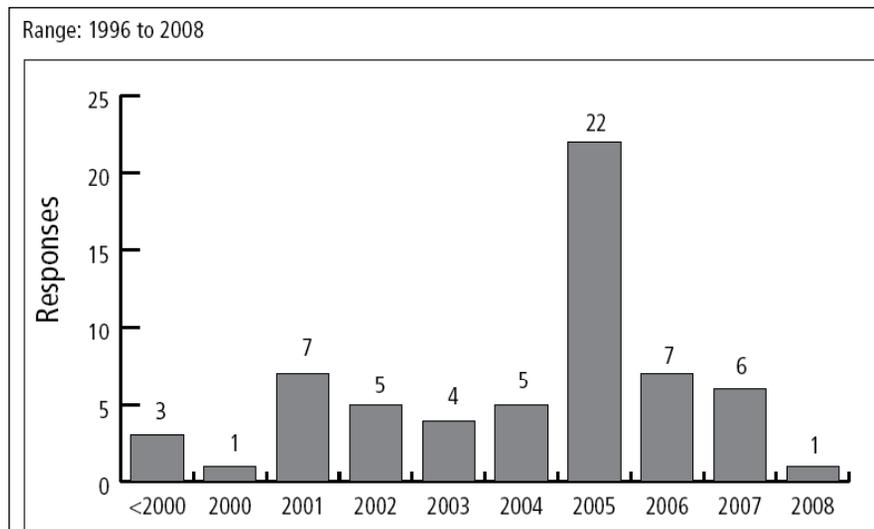
So, what does the future hold for IT and libraries, whether it be thirteen or five years in the future? I am not a technologist by training, nor do I consider myself a futurist, so I typically defer to my colleagues. There are three places I look to for prognostications of the future. The first is LITA's Top Technology Trends, a recurring discussion group that is a part of ALA's Annual Conference sand Midwinter Meetings. Past Top Technology Trends discussions can be found on LITA's blog (www.ala.org/ala/lita/litaresources/toptechtrends/toptechnology.cfm) and on LITA's website (www.ala.org/ala/lita/litaresources/toptechtrends/toptechnology.cfm). The second source is *The Horizon Project*, a five-year qualitative research effort aimed at identifying and describing emerging technologies within the realm of teaching and learning. The project is a collaboration between The New Media Consortium and EDUCAUSE. The Horizon Project website (http://horizon.nmc.org/wiki/Main_Page) contains the annual Horizon Reports going back to 2004. A final approach to project the future of IT and libraries is to consider the work of our peers. The next library innovation may emerge from a sister institution. Or perhaps it may take route at your local library first!

Reference

1. Bejune, Matthew M. and Jana Ronan. *Social Software in Libraries*. ARL SPEC Kit 304. Washington, D.C.: Association of Research Libraries, 2008.