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Architectures for Collaboration

Roles and Expectations for DIGITAL Libraries

By Peter Brantley

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Libraries as we know them physically are things that we can well understand. Libraries are, obviously, buildings with books and lots of other objects: desks and chairs and skylights. But increasingly, libraries also consist of wires and fiber-optic cabling and wireless hubs and lots of computers and computer systems. Over the last ten years, libraries have begun to struggle to put much of their content online. I think of these digital collections as “knapsacks” of content. They have also been called, at some point or another, “cabinets of curiosities” because they’re often eclectic combinations of digital artifacts—often, extremely interesting artifacts.

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Libraries have also started establishing digital archives for the preservation of cultural materials, and these too are very interesting compilations of materials. In addition, digital libraries have started to put up institutional repositories that preserve content, journal articles, and preprints. For example, the California Digital Library's eScholarship Repository (<http://repositories.cdlib.org/escholarship/>) is an online archive or database of journal articles that are provided for presentation for open access publication. These are all excellent initiatives, and there are many others, but for these times, they are not enough.

Critical Failures

I think libraries have failed in some important ways. Those of us in the library field have not done a good job of letting go of the way that we have defined ourselves in the past. We have not done a good job of redefining ourselves in the world today. We have not provided truly active support for learning within our institutions to further our students' education. We have not engaged, as vigorously as we should have, in important public debates around vital issues for libraries, for our users, and for our institutions. And we have not actively innovated in important areas that will help define our existence and our own preservation in the years ahead.

In addition, we often underperform. We have not done a good job of really understanding what our students are doing or what they expect from us. We've done a very bad job of collaborating with campus IT organizations. We have not even worked well with each other to form liaisons or collaborations to pursue common aims. Finally, we have not taken as much responsibility as we should have for things that we might have done—or done better.

A prime example of this last failure is mass digitization: we have been unable to coalesce library opinion around digitized books and the agreements that come with them. Over the last few years, various important digitization initiatives have involved partnerships among commercial firms and libraries. Perhaps the best-known is Google

Book Search (<http://books.google.com/>), which has engaged many large and also some smaller libraries to digitize their holdings and offer the content online. Other initiatives—such as the Open Content Alliance (<http://www.opencontentalliance.org/>), with partners including the Internet Archive, Yahoo!, and Microsoft—are more focused on open access principles in ensuring that the products of digitization are widely available.

Libraries always underestimate the rate and impact of change. As a result, libraries risk irrelevance to young people, who have different expectations for online information and participation. Relevance, for libraries, is not about how many people read books or about how many people come through the library doors. What is important is to be able to find the books, search across them, and integrate them with other information. So often, when libraries figure out how to get something done, we congratulate ourselves and think that we can just go back out there, do the same thing again, and that will be fine. But technology continually wipes out our understanding of how libraries should engage the world.

Library Mantras

Libraries must change. We need to be focused on engaging the world, empowering people, thinking much more ambitiously, and sometimes taking risks that

we think might border on foolish. As a writer at LinuxWorld.com noted in his blog: "Trying stuff is cheaper than deciding whether to try it" (<http://www.linuxworld.com/community/?q=node/1820>). The following mantras encapsulate what I think digital libraries must do.

Libraries Must Be Available Everywhere.

Digital library collections are useless unless they're seen. No one goes to libraries to find things anymore. That is the rightful business of search engines; it is what they do well. Libraries must work to make their collections easily discovered by people—not just by sophisticated librarians. They must be able to open up access to their collections through many different doors. Libraries must be available everywhere.

Libraries Must Be Designed to Get Better through Use.

When libraries were simply physical buildings, they were the center of the campus. But libraries are not the hubs of knowledge anymore. I think of libraries as spokes on a wheel, connecting people and communities at the center with the world on the outside. In the new world, services that we make, that we build, are the "shelves" in our libraries, and through these services, people change knowledge and transform information. People—not library curators—enrich our collections. Libraries must be designed to get better through use.

Libraries Must Be Portable.

On our campuses, people assume that they will have constant access to the network. Computing happens everywhere, on almost anything—on screens small and large, portable and fixed. Software developers are working on games for cell phones—games that are moving into engaging storytelling. Faculty could be teaching with these same tools, using library resources and aids. Libraries must be portable.

Libraries Must Know Where They Are.

Where am I? My cell phone knows: I am in Oakland, California, in the East Bay. We should be able to learn in place. Libraries have tremendous stores of

information that are relevant to location-based learning and geographic information services, and yet we have done strikingly little with this information. We have not even begun to figure out how to deliver it to devices that are as mobile as the people we claim to serve. Libraries must know where they are.

Libraries Must Tell Stories.

Many of us lament that people seem to be watching TV more than they are reading books. But the truth is that TV engages us more easily than books do. Generally, the more immersive a technology is, the better. Distributed learning means media-based learning. Libraries can help build video-smart colleges and universities. On the website “The American South in the 20th Century” (<http://www.thesouth.tv/>), the section “Southern Voices” features segments of interviews with important people—people with important stories to tell. For example, Richard Crocker, a novelist, starts off by saying, “I was standing on the sidewalk, watching the funeral procession of Dr. King . . .” That video interview allows viewers to understand the civil rights movement in the South in a raw, direct fashion that they would never be able to experience purely through reading about it in a book. Libraries must tell stories.

Publishing is interactive, involving conversations in which libraries can play a key role.



Libraries Must Help People Learn.

How does teaching take place today? It happens on the move. It happens between people, both among peers and between teacher and student. It can also happen virtually and through many different kinds of media. The responsibility for learning lies ultimately with the student—not the teacher—and libraries must support the learner, not just teachers. We often become engaged with our faculty in support of their teaching, but we neglect to join with students and to understand how they use information. Libraries must help people learn.

Libraries Must Be Tools of Change.

My daughter, six years old, will not read printed books when she goes to college. We see printed books as culminations, as final products, but publication is a process. It does not have an end. To publish today means publishing all the time—updating, commenting, changing. Publishing is fluid, punctuated, and diverse. And publishing is interactive, involving conversations in which libraries can play a key role. Libraries have long participated in fostering dialogues among people and between people and information. This faith in the continual questioning and revisioning of what we understand is the same creed that must mold newer models of publishing. Libraries can lead the redefinition of new forms of scholarly communication. Libraries must be tools of change.

Libraries Must Offer Paths for Exploration.

Technology applications are increasingly expected to be ubiquitous and open. Users expect to use software tools, services, and content unmediated, without other people intervening. We must design applications to enable faculty and students to recombine services and content. When they remix information, students learn how to re-shape their world. That is what people expect now and what they will be expecting in the years ahead. This is a critical component of our teaching. Libraries must offer paths for exploration.

Libraries Must Help Forge Memory.

Preservation is a core part of the portfolio stewardship provided by libraries. Pres-

ervation happens when libraries work together, in partnerships. Preservation does not end with the storage of objects. Preservation is never going to be precise. Preservation is an ongoing process, a commitment involving policies, effort, and work. Libraries must help forge memory.

Libraries Must Speak for People.

We learn by borrowing from the work of others. The fair use of copyrighted material, rights for information access, the control of one's own privacy, network rights of way—these are issues for libraries. But these issues are meaningless unless they are voiced. These issues are the responsibility of libraries. Libraries must speak for people.

Libraries Must Study the Art of War.

The example of mass digitization shows that libraries are engaged in critical and important negotiations and agreements with commercial partners. At the same time, libraries need to remember that industry will want to commercialize content. Industry will want to find proprietary solutions; industry will not always play nice. Libraries must therefore engage with clarity, with strength, and with union. We must stand together to define normative behaviors for ourselves and for our commercial partners, and when necessary, we must highlight, in public forums, conduct that does not serve the greater good. Libraries must study the art of war.

Engagement

The world is moving to broad-based participation in information creation and information discovery. Libraries need to figure out ways of engaging in and facilitating this participation rather than guarding against it. We need to learn how to evaluate information for people without intruding on or frustrating their efforts to interact with the information they're seeking. How, with whom, and where can libraries engage in this broad-based participation on campus and in the community?

Faculty and Students as Communities

Libraries need to treat faculty and students as communities and not solely as

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learning. We can and should work with Yahoo!, Apple, Google, and others. We can hold conferences, think aloud,

and speculate about a future that is portable.

Optimize Search Engines

Google, Yahoo!, Amazon.com, and Microsoft are, obviously, important content holders, with massive scale and visibility. Libraries should be engaged with these firms. The belief that information can be distributed cheaply, easily, and in a way that permits reuse is critical. By becoming involved in the development of technical standards and protocols that facilitate this process, libraries can learn how to get their content harvested and linked appropriately. The DLF (Digital Library Federation) Aquifer Project (<http://www.diglib.org/aquifer/>) is an example of this type of initiative. Libraries must establish and vocalize the expectations of higher education and must create a shared understanding about information access, authenticity, and provenance by engaging private sector firms.

Libraries are on the front line. Working with people who are young and who

are growing up with technology, we are in a wonderful place to advise on what is “future cool.”

The Architects of Collaboration

Libraries face the following set of problems:

- Massively distributed information; rich data that is often not very well described
- The necessity for building new indexing architectures both at the engineering and the discovery levels
- The necessity for mining and mapping data to build linkages that are interactive and that encourage further building
- The challenge of providing ubiquitous access to information from a wide variety of places
- Shifting access points and variable persistence, since content shifts in location and is described with shifting names

But these are not “library problems.” These problems are shared by IT communities. They are shared by publishers. They are shared by search engines. They are shared by for-profit content providers. The solutions to these problems will come about through the ability of libraries to collaborate among themselves and also with IT communities, publishers, search engines, for-profit content providers, and others. These are collaborative problems, and they will be solved with collaborative solutions.

The success of libraries is not to be counted by the number of books, either digital or paper, held by libraries or the number of pretty pictures that libraries can put online. Libraries are successful to the extent that they can bridge communities and can leverage the diversity of the quest, the research, and the discovery. Libraries are successful when they offer new services and when they help others discover services provided by others. By building bridges among these various sectors, libraries will be able to define themselves in the next generation. They will become the architects of collaboration. *e*