» "My alma mater was books, a good library ... I could spend the rest of my life reading, just satisfying my curiosity." -MALCOLM X

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Set Your Mind on Leadership Development

» Developing library leaders among current staff is investing in your library's future.

BY JERILYN VELDOF

Libraries are full of creative, intelligent, and dedicated people. But ask most of these people if they see themselves as leaders, if they are working to the top of their potential, or if they are stepping out and reinventing their libraries and many of them will shake their heads and say, "No, not really." Why?

The answer could include a number of reasons, but I think one is central. It's one that we can do the most about: leadership development.

What is the difference between an institutional mindset that supports leadership development and one that does not? What factors encourage an organization to invest in leadership development?

WHAT IS YOUR LIBRARY'S MINDSET? WHAT IS YOUR MINDSET?

It's no surprise that for too many of us, leadership development is the last priority on our funding lists. We need to focus our resources on defending our libraries from financial siege, fighting for marketing attention, and championing our users' needs and wants. Where is the time, where are the funds, for developing our people?

The answer is, as usual, it depends. Do you have a library administration with a fixed mindset or do you have a library administration with a growth mindset? This distinction can be at the very center of the "it depends" response and can determine the difference between having—or not having—the time and money for leadership development.

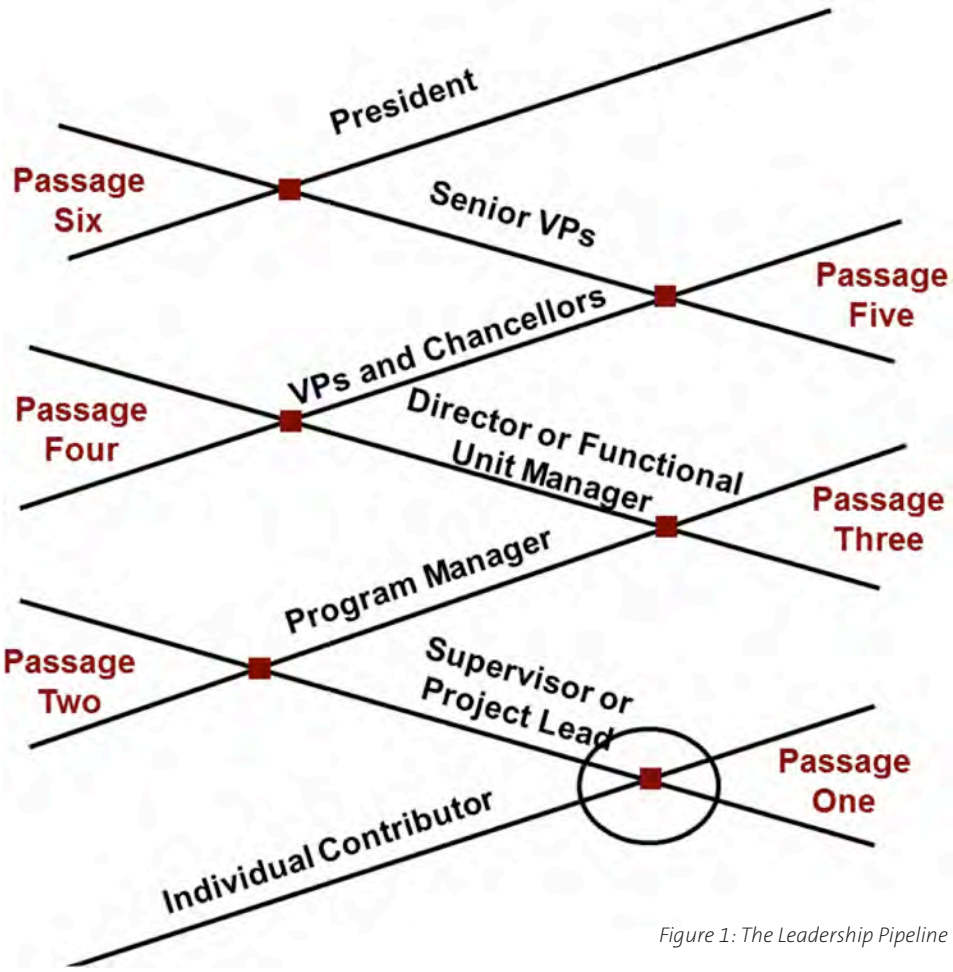

Figure 1: The Leadership Pipeline

Carol Dweck, a Stanford professor and psychologist, has much to teach us about growth mindsets and its damning opposite—the fixed mindset. In her book, *Mindset: A New Psychology of Success,*[1] Dweck goes into the many ways in which our beliefs about our own ability to grow and develop—or our inability to do so—shape every aspect of our lives. Across dozens of studies, Dweck and her students have shown that some people believe that their personal traits are fixed while others believe they can be developed.

For libraries, in my view, this research raises important questions: does your library administration offer leadership development opportunities? If so, do you want to join a leadership development program?

If you have a fixed mindset, you believe that factors such as your intelligence or talents don't ever really change. You were born the way you were born and that's the end of it. If this is you, you'll find yourself putting tremendous energy into proving how smart or how good you are at something. You're less apt to ask a question for fear it will make you look stupid. Your mindset often prevents you from trying new things because you don't want to fail or can't stand the idea of not being the best. As Dweck says, this mindset is based on winning or losing, not on improving.

The growth mindset is in stark contrast to the fixed mindset. If you have a growth mindset, you believe that you can develop your abilities if you just work hard enough and are dedicated enough to do so. You see your innate intelligence and talents as being just a starting point, with ample opportunity to improve. You love to learn and see constant opportunity to grow and change.

Now consider which mindset dominates your library. If you work in a primarily fixed mindset library, new employees are hired because they have been doing the same job elsewhere, or they were student workers who have had some level of exposure to the job duties. Once these people are hired and doing their work, managers don't expect much more from them. They're already working at their potential and, in fact, they've reached it. Leadership development programs don't make sense in this kind of organization. If the organization needs a good leader, one will be hired from another library.

In contrast, if a growth mindset is more prevalent at your library, supervisors are sincere about coaching their employees and helping them develop. Employees are rewarded for their hard work and effort and are encouraged to take risks. They are assumed to have untapped potential, and it is the job of the supervisor to support greater skill levels and expertise. Development programs are available for all staff, and leadership is nurtured and cultivated at all levels of the organization.

GROW OR DIE!

The basic components of the leadership development programs that we have in place at the University of Minnesota Libraries can be adapted to any library environment. We purposefully cultivate a leadership culture where everyone is invited and supported to be a leader regardless of level or position. By embracing a growth mindset, our collective job is to nurture leadership.

Why is this objective so important to us? Our current reality not only has encouraged us to foster a growth mindset, but also has made it critical—and there is no time to waste. We're just ahead of a huge tidal wave that is already beginning to erode our funding and threaten our mission. So each year we launch initiatives to develop innovative new services and products that add exceptional value to our campus community.

We currently have six large-scale initiatives that spawn twenty program areas. Leading this work is complex and specialized. The people immersed in it are the ones who have to lead it, not our library administration. We call this program leadership. Program leaders are building the plane as they're flying it. It's very challenging work that we could not achieve if only our traditional leadership—the university librarian and the associate university librarians—were leading these programs.

In addition, the work in my library is increasingly getting done through task forces, project groups, management groups, and long-term committees. Many good leaders are needed to fill these roles. These leaders need skills in such tasks as creating a shared vision, prioritizing and organizing action, inspiring group members and others, listening and communicating, resolving conflict, and managing projects. These leadership skills need to be coached, developed, and constantly reinforced.

Another reason we are compelled to adopt the growth mindset is that we, like

many of you, are facing widespread retirements. We need to ensure we have strong leaders in the management pipeline.

There are many "passages" in the traditional pipeline. **Figure 1** is an image of the pipeline in the academic community as adapted from *The Leadership Pipeline: How to Build the Leadership Powered Company.*[2]

As The Leadership Pipeline authors explain, each passage necessitates different skills, different allocation of time, and different values and beliefs than the one that came before it. What serves you well at one level may not (and likely won't) at another level. If, in spite of a promotion, you can't adequately perform at the next level, you end up clogging the pipeline and creating a mess. This phenomenon is called "under management" and results when individuals who are given the responsibility for supervising and leading others do not have the correct skills, allocation of time, or values and beliefs for doing so.

What happens when a staff is undermanaged? The Gallup association has ample research to show that managers play a significant role in employee engagement.[3] In **Figure 2**, the third image shows that when staffs are ignored, their engagement plummets; they are not just disengaged, they are actively disengaged. An actively disengaged staff is toxic to the entire organization. The mere 2 percent of staff who is still engaged cannot begin to counteract the damage that actively disengaged people are making on the library.

It is crucial that the people we promote can make their passage from individual contributor to supervisor or project leader and beyond successfully.

Staff is, to put it bluntly, the largest expense in libraries, beyond even our collections budgets. We should be intentionally finding ways to cultivate a staff that is able and willing to lead from all levels of the organization, whether working up the management pipeline, desiring to head into the pipeline, or not even considering the pipeline. We should aspire to get the best return on this massive financial allocation.

What can this look like in reality? The elements of the leadership development initiative at the University of Minnesota Libraries can be used as an example. As the Organization Development Librarian, I am the designated on-site coordinator for all of these programs. At other libraries, however, various aspects of the coordination responsibilities could be distributed to multiple people on the staff.

LEADERSHIP DEVELOPMENT PROGRAMS

Although the University of Minnesota Libraries has offered leadership development in the past, several years ago we began to roll out an initiative that focused our efforts on two core leadership programs and five advanced leadership programs.

In some cases, programs are offered just one time. But in most cases, they take place over many months or years and involve participants' supervisors and colleagues. In most cases the programs stand alone, meaning there are no prerequisites.

The following description of each program includes its specific goal and related costs, if applicable.

Core Leadership: Individual Development. Each year, twelve libraries staff members from all parts of the libraries (regardless of formal positions) are selected through a competitive application process to take part in this nine-month program. Library directors have also completed the program as a separate cohort.

The primarily focus of the program is the creation and execution of a development plan customized to meet each participant's unique development needs and interests. This process is done in close consultation with an individual coach and the input and support of program participants and their peer coaching group. Central to the process is the completion and analysis of a multi-rater assessment (also known as a 360 degree assessment).

Goal: Increase an individual's self-awareness and confidence as a leader in the University Libraries by:

- Enabling participants to create and complete a highly personalized development plan based on several assessments.
- Providing individual and group coaching during the process.
- Creating a group of trusted peers with whom an individual can be candid and turn to for advice, direction, and support.

Cost: $650-875 per person (depending on how much coaching participants use) plus the time of a current staff member. Cost includes fees for assessment tools and coaching costs.

Core Leadership: Supervisor Fundamentals. All managers in the University Libraries participate in a semester-long, immersive supervisory skills training series customized from the supervisor fundamentals curriculum offered by the University's Office of Human Resources.

Goal: Equip supervisors with core skills that help them effectively meet day-to-day challenges and achieve results by:

- Raising awareness of the leadership competencies that the Libraries expect supervisors to develop.
- Providing a series of classroom-based learning opportunities to help supervisors understand and leverage their supervisory roles; understand one's individual management style and how it affects others; develop, motivate, and coach individuals and work groups; develop a productive work environment; and build essential communication skills.
- Providing a group of trusted peers with whom an individual can be candid and turn to for advice, direction, and support.

Cost: $0. This training is provided by an on-campus unit that is funded centrally by the university.

Advanced Leadership: Management Deep Dive. Supervisors and managers dive deeply into management topics in a monthly forum. These sessions are mostly a flipped classroom model with required pre-

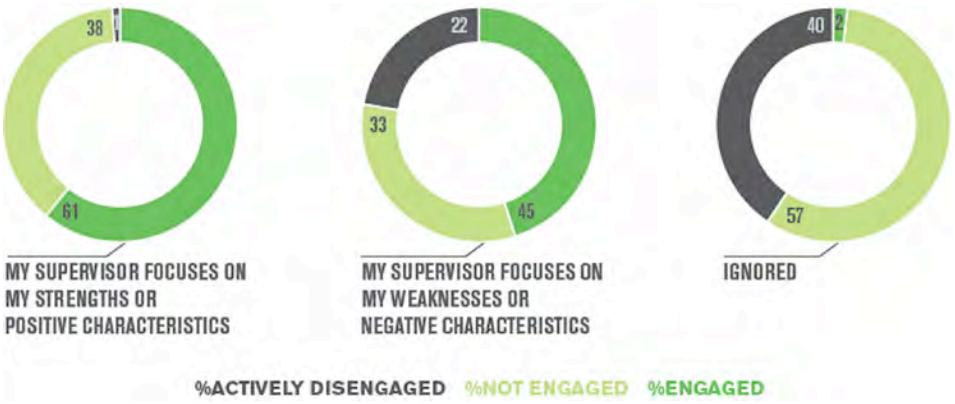

Figure 2: Gallup Report, "State of the American Workplace."

» **We have far too much need for strong leadership at all levels of the library to leave leadership development to happenstance. We also can't rely solely on traditional "sage on the stage" forms of leadership development programs. Instead, my hope for libraries is that we focus on building a leadership culture where staff are nurtured and developed in their daily efforts to step into leadership.**

and post-work. The participants and their supervisors are asked to complete certain steps together to reinforce the curriculum, including follow-up discussions in management groups.

Goal: Deepen management knowledge and skills on an ongoing basis, reinforced by pre- and post-work and follow-up discussions in management groups and/or 1:1 meetings.

Cost: $0. This program was created and facilitated by current staff.

Advanced Leadership: Director Cohort. Directors from all parts of the library meet every six weeks over lunch to discuss issues they feel are important, share best practices, raise concerns, and connect with their peers.

Goal: Provide directors with a group of trusted peers with whom they can be candid and turn to for advice, direction, and support.

Cost: $800 per year (approximate cost of box lunches).

Advanced Leadership: Peer Coaching. This is a voluntary opportunity for managers to meet confidentially with two other managers on a regular basis to provide and receive support from peers who work in different areas of the library.

Goal: Provide managers with a group of trusted peers with whom they can be candid and turn to for advice, direction, and support.

Cost: $0 plus the time of a current staff member.

Advanced Leadership: Mentoring. Joining the mentoring program is an option for anyone on staff as a mentor, a mentee, or both. Some staff members choose to have a general mentor. Others prefer a more focused mentor relationship that could include accountability mentors (to help staff members keep on top of their goals and projects), career mentors, job skills mentors (such as cataloging or teaching), supervisor/manager mentors (for those in supervisor/manager positions), and continuous appointment/tenure mentors.

Goal: Provide support and direction at the individual level.

Cost: $0 plus the time of a current staff member who provides training and resources to support the relationships.

Advanced Leadership: Leading at the Director and Program Level. This program is based on a very popular three-day national institute for library managers taught by trainers DeEtta Jones and Kathyrn Deiss.[4] Approximately forty library administration, directors, and program leaders have participated in this program.

Goal: Take ***Core Leadership: Supervisor Fundamentals*** to the next level by both reinforcing and building upon concepts and skills.

Cost: $500 a person, by far our most expensive program.

FINAL THOUGHTS

We have far too much need for strong leadership at all levels of the library to leave leadership development to happenstance. We also can't rely solely on traditional "sage on the stage" forms of leadership development programs. Instead, my hope for libraries is that we focus on building a leadership culture where staff are nurtured and developed in their daily efforts to step into leadership.

For this to happen, supervisors need to think of themselves as leadership coaches, administrators needs to give untested staff members opportunities to be leaders, mentoring and coaching needs to become the accepted norm, and ample, frequent communication about leadership needs to happen at all levels.

There is no better way to communicate to staff how important leadership is than to invest time and resources into providing formal leadership development, defined far beyond mere positional leadership. When launching a visible, high level leadership development initiative, libraries should consider asking someone outside of the library administration to lead it and create development programs where at least some are open to all. These efforts will begin to swiftly move the ship forward and position your library for the future. ■

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FOOTNOTES

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[2] Charan, Ram; Drotler, Stephen; and Noel, Jim. *The Leadership Pipeline: How to Build the Leadership Powered Company,* John Wiley & Sons, Inc., 2011.

[3] Gallup. *State of the American Workplace: Employee Engagement Insights for U.S. Business Leaders.* Gallup Report, 2013. To receive the report by registering with Gallup, please log on to http://www.gallup.com/services/178514/State-american-workplace.aspx. To receive the report directly, please access http://www.michaeljbeck.com/document/State%20of%20the%20American%20Workplace%20Report%202013.pdf.

[4] http://www.deettajones.com/wp-content/uploads/2009/12/LMSI_I1.pdf

Community Users and the Academic Library

» Strategies for exploring a dynamic relationship require a balanced approach.

BY ANDREW R. GRISSOM

Academic libraries have a history of complex relationships with their surrounding communities. Since the core mission of many American colleges and universities emphasizes the teaching and research needs of students and faculty, the kinds of collections and services provided by their libraries tends to support the needs of the so-called "primary clientele" over those of unaffiliated members of the campus's surrounding locale.

This is not to say that academic libraries do not transform their services to open up campus resources to broader user groups. Rather, they face a continuous struggle to meet the ever-rising needs and expectations of community users as well as their own affiliated constituents. Terms for these users abound in LIS discourse, from "unaffiliated users" to "external users." In this article, "community users" describes local residents who seek the services of an academic library at an institution with which they are not affiliated.

The dichotomy between the primary clientele and community users gives serious implications for librarianship as a profession. As service-oriented professionals and proponents of intellectual freedom, librarians generally accept equitable services and access to information resources among all library users as part of their calling to the vocation.

In fact, offering "the highest level of service to all library users" remains the first principle of the Code of Ethics of the American Library Association.[1] However, academic libraries strive to further the mission and goals of their parent institutions, which include the provision of services directly related to the teaching and research growth of their students, faculty, and staff. A greater attention towards their own affiliated users may then lead to a restriction of services towards community users.

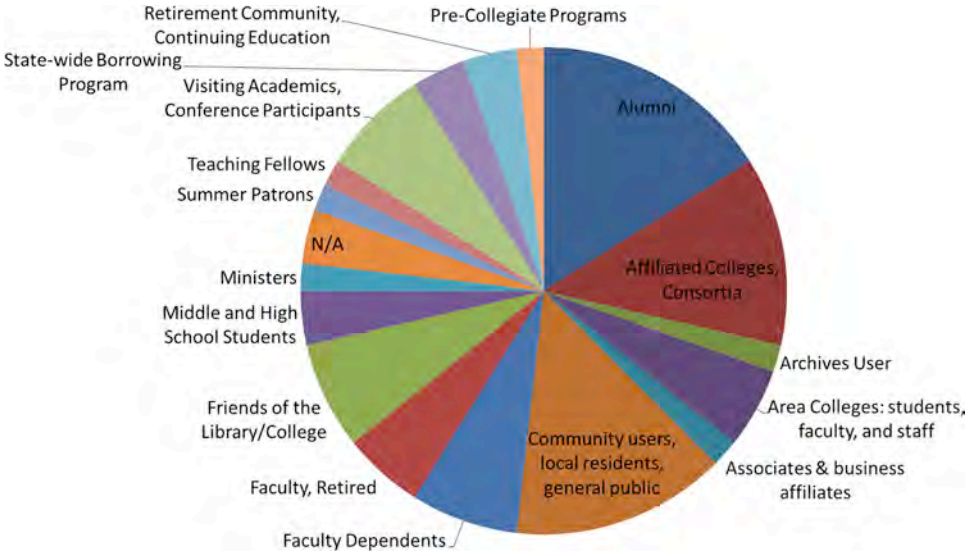

Exhibit: The breakdown of borrower categories for community users among ACS institutions.

Are academic librarians shortchanging their mandate to help all users, regardless of their identities and information needs, by privileging those affiliated with their parent institutions? On the other hand, how can academic libraries keep up with the expanding needs of community users, while also fulfilling the expectations of their parent institutions?

A study of institutional and library policy documents serves as an advantageous way to attain a sense of how this issue operates in practice.

PERCEPTION EVOLUTION

Library and information science literature reveals a tradition of negative perceptions by academic librarians toward community users, as chronicled in E. J. Josey's 1961 symposium, which debated the "grievous" nature of the interactions between librarians and the community.[2]

The feelings were further exacerbated by subsequent stark articles choices, such as Nancy Courtney's "Barbarians at the Gates"[3] and Lloyd Jansen's "Welcome or Not, Here They Come."[4] Janson attempted to identify "legitimate" and "not-legitimate" uses of library services to allocate assistance towards users with what library staff conceived as appropriate uses of their available resources.[5] In particular, high school students pose a challenge to library facilities, staff time, and collections; LIS literature is full of discussion about policies for high school students, most resulting in restrictive measures.

Contemporary scholars, however, no longer ask the question of whether community users should be allowed access to academic library resources. Rather, they seek to determine how academic librarians can address the needs of community users in the face of twenty-first century problems, including seating space, computer availability, and issues of copyright and intellectual property.

Nancy Courtney's 2001 landmark study tracks LIS literature on this topic from the 1950's through the 1990's.[6] During higher education's expansion and the large influx of students following World War II, academic librarians established the notion of "primary clientele" to form policy decisions

» Services to those outside the primary clientele still continue to pose a challenge to academic librarians when vendors control licensing agreements that restrict usage to only affiliated users.

in response to limited staffing and facilities. Typical restrictions to community users during this period included fee-based borrowing systems, limitations on seating, and, in some cases, barring the general public from entering the library building.

Later studies show that many of these restrictions persist in academic libraries today. As universities purchased new computer technologies in the 1980's, inflated costs of printing and scarce workstation space caused libraries to discourage community users.

During the 1990's, Internet access became a major feature of all libraries, and the general public began using academic libraries as an avenue to access resources on the web. In response, academic institutions issued "authentication" features on library computers, limiting access to certain materials to only affiliated users. Services to those outside the primary clientele still continue to pose a challenge to academic librarians when vendors control licensing agreements that restrict usage to only affiliated users.[7]

Courtney followed up this literature review with a 2003 survey of unaffiliated user access to academic library resources and services.[8] The questionnaire results from 814 academic libraries affirmed the typical restrictions to library access described in previous studies, including security, staff shortage, and impact on library materials, seating space, and facilities.

Several studies following Courtney's work used similar survey methods, although none reached the scope of her 2003 survey. Tina Schneider conducted a survey of libraries belonging to "regional campuses," institutions that serve as the only form of public higher education within a region.[9] Addressing institutional mission statements, library mission statements, and community service programs, Schneider's survey revealed a need to make community involvement publicly acknowledged by the institutions.

Michael Shires explored the nature of public access in Florida academic libraries through an online survey, also noting the need for libraries to make these policies public.[10] Tunon, Barsun, and Ramirez invited academic librarians to give their attitudes about assisting distance students from unaffiliated institutions.[11] The resulting study revealed few overtly antagonistic attitudes yet a high level of concern for the impact on collections and staff in addressing the needs of these unaffiliated students.

Other articles in LIS literature use a case study approach to examine these issues. Jo Kibbee examines virtual reference services for community users via usage statistics from the University of Illinois at Urbana-Champaign, finding that most inquiries relate to a library's holdings, policies, or the beginning stages of a research project.[12] Dole and Hill report on a two-year experiment at the Ottenheimer Library at the University of Arkansas at Little Rock to extend free borrowing privileges to community users.[13] The authors explore the costs, benefits, and potential return on investment (ROI) from inviting community users to have free access to library materials.

Finally, some scholars sought policy documents directly from institutional websites, collecting data to make generalizations on access policies across institutional settings. Weare and Stevenson examined twelve institutions with similar urban settings, enrollment sizes, and instructional programs as their home institution, Indiana University – Purdue University Indianapolis (IUPUI), to determine if their library needed an update in policy regarding unaffiliated users.[14] Barsun studied 100 libraries with membership to ARL, attempting to determine whether access policies addressing community users existed on their websites.[15]

These articles use subject pools primarily consisting of large, public institutions, or of consortia consisting of wide-ranging types of institutions. No study currently examines this issue within the context of small, private liberal arts colleges and universities.

ANOTHER APPROACH

My research project attempts to close this gap in LIS literature. The study asks: how do library policies reflect perceptions of community users, within the contexts of small, private liberal arts institutional settings? To investigate this question, the Associated Colleges of the South (ACS) was selected as the subject pool. ACS is a consortium of small, private institutions, dispersed across the southeastern United States. ACS maintains a strong emphasis on the liberal arts curriculum and the undergraduate student experience.

This study pursued a collection of institutional mission statements, library mission statements, and library policy documents from the website of each ACS member institution. These types of documents are advantageous for this particular study, since they often contain information about an institution's vision for its relationship with the local community. An exploratory analysis of these documents revealed interesting, and often surprising, themes regarding institutional outlooks on local communities as well as library services for these types of users.

The documents indicated both welcoming and restrictive levels of service toward community users. The language used within policies of borrowing and facility usage reflect real concerns by institutions opening up their doors to members of the local community—namely, the security of their students and staff, the availability of study space to students, and the possibility of community users accessing objectionable material on library computer screens.

Borrowing policies not only reveal loan periods and fine structures that indicate the level of "trust" libraries will afford to give to community users with their materials, but they also give insights into the taxonomies of user categories that institutions use to describe community users, such as alumni, area college students, and Friends of the Library. The accompanying Exhibit shows the variety of terms given to community users by ACS libraries.

IMPLICATIONS

The methods employed in this project are advantageous for all academic libraries belonging to a consortium or larger library system. Studying the policies and organizational structures of those in your cohort may illuminate strategies for providing services and support for community users. By replicating the methods in this study, you can:

» To make informed policy decisions, academic libraries must examine the needs of these users and how their facilities, staffing, and resources may best accommodate these needs while also addressing the research and teaching missions of their parent institutions.

- Examine the role of community service within institutional and library mission statements of your consortium members, locating areas of consistency between your institution's policies and those of your peers.
- Observe the library policies of your peers unobtrusively, without needing to conduct a questionnaire, focus group, or other type of survey instrument using human subjects.
- Initiate courses of action from the information you learn from these documents.
- Start discussions about revising library policies. Do other institutions within your consortium have creative or innovative approaches to serving community users? Is it feasible to adopt these within your own setting? What are the potential costs, benefits, and ROI of these ideas?
- Make these policies publicly accessible. Are they available on your library's website? Can anyone with an Internet connection find and read these policies?
- Create forums for dialogue with other members of your consortium regarding community users and community service. What does your consortium's mission statement or goals say about the role of community service in higher education? In what ways should the library embody these ideas?
- Seek cooperative efforts and partnerships with local libraries, businesses, and interest groups. How might community users meet their information needs beyond the constraints of a university library? What relationships with local entities could foster services like interlibrary loan or exchange of information resources between your institution and local community members?

PROS AND CONS

Inviting community users into an academic library brings advantages and disadvantages. Providing services such as borrowing, computer access, research assistance, study space, and interlibrary loan may foster beneficial relationships between an academic institution and its surrounding region.

However, concerns about offering these services to community users still remain. Security issues, damaged or lost materials, loss of study space and computer workstations, time-consuming assistance—all have been referenced with LIS literature as well as in the policy documents recorded in this study.

To make informed policy decisions, academic libraries must examine the needs of these users and how their facilities, staffing, and resources may best accommodate these needs while also addressing the research and teaching missions of their parent institutions.

By observing the library policies within one's consortium or cohort, a library can compare decisions of institutions of similar sizes, user demographics, and missions. These comparisons may help to strike a balance between our professional obligation to assist all library users and the realities of institutional needs and initiatives. ■

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Why Should You Care About Google Glass?

» Librarians can assist in promoting and cultivating new approaches to wearable technology being explored by the academic community and mainstream marketplace.

BY HEATHER RULAND STAINES

You've probably heard of Google Glass, the computerized glasses in development by Google. You probably also know that reactions have been varied: "It's the best thing since sliced bread!" "It's the worst thing since the Segway!"

Regardless of what you may have heard, you may not know that universities and libraries are experimenting with Glass to find new applications for it and other wearable technology. This new "Glassware" may well open up intriguing possibilities and new opportunities on and around your campus.

RISE OF WEARABLES

During the past two years, a new consumer category of "wearables" has appeared in the marketplace. These wearable computers fall mainly into a few categories: glasses/headsets, smart watches, and fitness devices. Wearable technology from the practical to the goofy has been around for decades; however, the recent proliferation of these gadgets has largely been made possible by recent technological advances in processors, memory, battery size and capacity, as well as increased sharpness and decreased thickness of displays. The wide availability of wireless networks along with the Bluetooth connectivity of devices has also allowed these newcomers to hit the ground running.

My own experience with a wearable computer has been with Google Glass. I was selected as one of 8,000 first wave Glass Explorers in the #ifihadglass contest held in the spring of 2013. I picked up my Glass in late June of that year at the Google Chelsea Market Basecamp in New York City. After a bit of training, I was off!

Glass is a lightweight device, worn on the face, featuring a 5 megapixel camera, a small head's up display, and 16 GB of memory. Glass connects to my phone via Bluetooth or to any wireless network. A number of features, including the camera and video recorder, work regardless of whether there is an available Internet connection.

Glass receives regular software updates. In late 2013, I was able to swap my headset for a Generation 2 device. Currently, there are more than 100 free apps, called Glassware, available. Purchase of Glass has now been opened to anyone, although Google has not reduced the original $1500 price.

The hefty price tag, some well-publicized limitations of the device, such as poor battery life, and some negative reactions have limited its general acceptance. Still, a number of initiatives, many within the university and library space, are exploring potential applications for teaching and learning, as well as research and accessibility.

TRAINING AND LEARNING WITH GLASS

Those in the medical field were immediately drawn to the hands-free data potential of Glass. The technology offered a way to readily offer point-of-view instruction for medical procedures, immediate delivery of brief instructional videos, and even real-time distance consultations for clinicians.

A number of medical and veterinary schools are currently in trails with Glass. Medical students at Stanford University will have the opportunity to see a surgeon's-eye view through Glass.[1] Duke Medical Center's Dr. Selene Parekh has been using Glass to record all of his orthopedic surgeries with plans to stream them to train orthopedic

Heather Staines wearing her Google Glass. (credit: Heather Staines)

surgeons in India.[2] At UC San Francisco, a cardiothoracic surgeon named Pierre Theodore received institutional review board permission to uses Glass to view images from CT scans or MRIs via Glass during surgery.[3] Ohio State University's Wexner Medical Center's Christopher Keading used Glass for a video-consultation while he was operating, demonstrating the potential for wearables in telemedicine.[4]

In addition to training, Glass holds practical potential to connect medical personnel in the field directly to trauma experts in the hospital, including video of patient status and information collected on the scene. The State University of New York Cobleskill is using Glass to provide video to students training to become paramedics, as well as those in its animal science programs.[5]

The largest potential drawback for Glass in a medical environment is, of course, patient privacy. Wearable Intelligence is one company offering a stripped down version of Glass, minus Internet sharing capabilities, to ensure protection of sensitive data. They are currently engaged in a pilot with Beth Israel Deaconess Medical Center's Emergency Department. Patient information remains on the hospital server with Glass acting only as a display device via secure Wi-Fi.[6]

Another similar project is EyeSight in which video and audio are streamed so that first responders and medical personnel can communicate from the earliest moments of patient care. EyeSight's creator, Pristine, removes Glass's Internet connections and streams encrypted data directly to the receiver.[7]

University libraries are also using Glass. In some instances, library staff have become Glass Explorers, while in other cases, libraries have purchased their own devices. Doug Chestnut and Steve Johnson of University of Virginia have presented on their project that allows Glass wearers to explore the library's Holsinger Exhibit of historical photographs from the region.[8] Yale University Library hopes to find ways to use Glass for scanning in the stacks or helping patrons with disabilities.[9]

Other libraries that have added Glass to their technology lending programs include NCSU, Miami University, Colorado University Boulder, University of Nevada Reno, San Diego State University, University of Maryland, Pomona College, and Claremont College.

Beyond the library, faculty have themselves become Glass Explorers to identify new ways to use the technology in the classroom. Ideas include documentation of class assignments, teaching remotely, or building multimedia presentations.[10] Nevada State College is looking at ways that students can experience the instructor's point of view or take part in virtual field trips with Glass.[11]

Brain Power App helps decode emotions (credit: Brain Power, LLC © 2014)

Physicist Andrew Vanden Heuvel took students on a Glass field trip through the Large Hadron Collider at CERN, biking the seventeen-mile loop and answering questions.[12] The College of Business Administration and Public Policy at CSU Dominguez Hills has begun a large test: recording lectures, allowing remote students to participate in teaching sessions, and offering virtual office hours.[13]

Other disciplines in which there has been interest in Glass are engineering and architecture—where immediate access to schematics and underlying data can be crucial. One might make a virtual tour of a building site and implement desired changes on the fly. Instructors at Ball State University developed an app called "The Traveler" so that students in European Architecture studying abroad can easily capture their firsthand experiences.[14]

Students involved in fieldwork, from archeologists to animal scientists, from botanists to behavioral scientists, can also benefit from use of Glass. Sabita Malla, a wildlife researcher at Chitwan National Park in Nepal, uses Glass to document location and images of rhinos involved in her conservation study.[15]

David Nemer at Indiana University is researching digital inequality in the favelas in Vitoria, Brazil. He created a video called "A day in the favela with GLASS!"[16] IntelliScout has a Glass app for farmers to take video and audio notes, with connections to local climate data and image recognition software.[17] Astronomy students (as well as hobbyists) can use the Glass Star Chart app to identify constellations in the night sky.

ACCESSIBILITY ADVANCES

Some of the most exciting potential applications for Glass are in the accessibility space. Wearables will likely improve the quality of life for those with visual, audio, mobility, or cognitive impairments.

There are a number of apps available or in development for Glass (and similar devices) to assist the visually impaired. Because Glass knows your location, can see what is in front of you, and can talk to you, audio assisted navigation is possible. Eelke Folmer at University of Nevada Reno received a Google Research Award for Navatar, developed specifically to assist in indoor navigation for the blind.[18]

Additionally, a company called Orcam has created technology that will read product labels on the supermarket shelf or in a home cupboard.[19] While these types of technologies have been available for phones for a while, accessing such information in a hands-free manner offers additional convenience. One app, available for phones, may soon provide via Glass the ability for users to photograph a document and have Glass read it aloud or direct a copy to a refreshable Braille display.[20]

Field Trip Screencapture (credit: Google)

An inspiring advance is the example of Ben Yonnatan of Kalamazoo, Michigan. Retinal Dystrophy has taken all but four-degrees of the teen's field of vision, threatening his ability to continue dancing ballet. Because the small screen on Glass happens to be located within Ben's existing vision, he can see what appears to be a wide screen view, expanding his peripheral vision to almost seventy percent.[21]

At the SXSWEdu conference in March 2013, I met two professors from Gallaudet University. We conversed through a sign interpreter. One professor had tried Glass and mentioned her desire for a speech-to-text captioning app to use when she did not have access to her interpreter. This very app, Captioning on Glass, is now available. Another initiative at Brigham Young University allows hearing-impaired visitors to planetariums to see via Glass an interpreter in a separate lighted area. This provides a good solution for the visitor and does not require light that might disrupt others viewing the show.[22]

Glass offers point-of-view experience for those who cannot readily leave their homes. Speech and gesture commands also enable wearers who lack fine motor skills to take pictures and video. Ashley Lasanta's cerebral palsy made it difficult for her to take photographs even with her phone, but she can easily take and share pictures by using voice commands with Glass. Her device also enables her to do web searches and play games.[23]

Researchers at Kennesaw State University's BrainLab are even working on a way to control Glass using brain waves alone, allowing those with "limited physical capabilities" the opportunity for an improved quality of life.[24] Those with even temporary limited mobility can benefit from Glass. The Houston Children's Memorial Hermann Hospital has a program where children undergoing medical procedures can wear Glass and interact in real time with keepers at the Houston Zoo across the street.[25] While other forms of video communication are possible, Glass offers additional escapism to divert the children's attention from their medical procedures.

Researchers are also developing apps that can identify facial expressions and provide cues to those on the autism spectrum with difficulty recognizing emotions. The Fraunhofer Institute in Germany has developed SHORE (Sophisticated High-Speed Object Recognition) for emotion identification.[26] Recent developments also include a game that rewards students for correctly identifying emotions in such expressions. A company called Brain Power (**www.brainpower.com**) has developed apps to reward eye contact and social engagement, as well as positive behaviors and progress with language. As Glass is worn on the face, the wearer can be looking up at other people rather than down at an iPad or other screen.[27]

Experiments are also underway to develop Glass as a memory assistive device for those with memory loss, including Alzheimer patients. Two Villanova professors, Tom Way and William Wagner hope to give a wearer access to an entire database of names and faces to refresh their memory. Their app would include a GPS that could prompt the user if they have been in a place before, as well as object recognition capability.[28] Glass could also be used to remind people to take their medication.

CONCERNS OVER GLASS

Wearable devices with video and audio recording capabilities have caused concerns over privacy. We as a society continue to navigate this new frontier. Not so long ago camera phones were banned entirely from places like locker rooms, but with time and familiarity we have adapted to their presence. Some places, such as movie theaters and some restaurants, have banned Glass. There are also related concerns about data safety and about companies with whom we share our personal data. With many recent security breaches at banks, department stores, and movie studios, data security should remain at the forefront of our awareness. How much do we want Big Brother to watch us? There are already some early examples of companies who plan to monitor employees and rate their performance via Glass.[29]

While designed, according to Google's Sergey Brin, to get people to look up from their devices and interact with others, there are worries that a device worn on the body will take our dependency on electronic devices to a new level. A user in the UK has already claimed Glass-addition.[30]

EXAMPLES OF GLASSWARE

Word Lens is a translation app that currently works in five languages and comes with a 10,000 word dictionary stored on Glass. Users ask Glass to "translate this," then direct the camera at the text or sign that they wish to read. A small frame hones in on the text in question, and a translation soon appears. As much as possible, Glass keeps the background and text color, as well as the font used in the original. The text appears to change before your very eyes!

Field Trip pulls up historical information and images about locations near the wearer. Information about a notable historic site, a local attraction, or an historic image becomes visible on Glass, and the wearer can prompt Glass to read the information aloud. Some of this information is extremely in depth. I once listened for twenty minutes about architectural and historical details of a church near my London hotel.

GuidiGO is working with museums around the world to create tours specifically for Google Glass. The app uses image recognition to provide information about exhibits.[31] This takes the museum audio tour to a new level.

» **Wearable devices bring us nearer to integration with the Internet of Things that appears to be just upon the horizon. Certainly, wearable computers like Glass will not be for everyone, but, given the varied applications in development, wearable computers are likely here to stay.**

PROMISE OF GLASS

The immediacy of Glass—the shortened time between intention and action—make it a useful tool in many teaching and learning situations. Glass's ability to read QR codes puts the wearer in touch quickly with information about physical locations, objects, or people. Live-streaming can enable people in different locations to share experiences in real time.

Wearable devices bring us nearer to integration with the Internet of Things that appears to be just upon the horizon. Certainly, wearable computers like Glass will not be for everyone, but, given the varied applications in development, wearable computers are likely here to stay. ■

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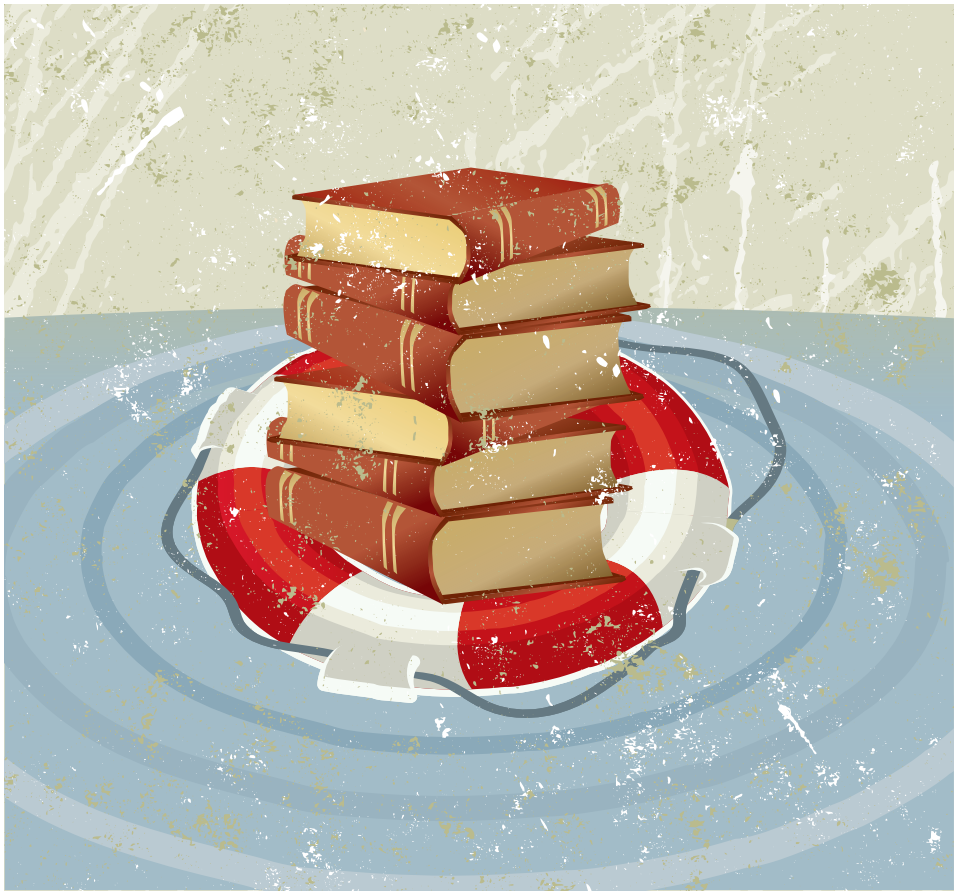
Librarianship during the Unexpected

» Surviving unplanned events requires planning and adapting to a new definition of a librarian's role.

ALLEN M. LOPEZ, MSIS



I'm not sure that I ever had a solid vision of my day-to-day when I decided to become a librarian. But when I made that decision, it came from a place of deep desire to close the gaps that people encounter every day when, inevitably, questions arise to which they do not immediately know the answer.

I'd grown up on the edge of mass information expansion in our culture, and I felt that I had an organic ability to sort through the hodgepodge of facts and clues to reach just the right piece that I needed to close my own information gaps. I wanted to use that ability to help others solve their own riddles, big and small.

I'd been working with librarians for years, and I admired their efforts toward this end. So, I attended an ALA accredited Master's program, found a great job as an instruction librarian in a medical library, and promptly learned that being a librarian means encountering endless unknown situations. We organize and plan by nature, but we're constantly forced to answer questions with on-the-fly critical thinking skills. The broad area in which my critical thinking skills have been put to the test manifested in disaster planning and recovery.

TRANSITIONS

After three years in an instruction role at the Texas Medical Center Library,[1] I moved into a collection development role at RML, which is the research support library for the faculty, staff, and students of the University of Texas MD Anderson Cancer Center.[2] The hospital, created in 1941, not only serves hundreds of thousands of patients seeking cancer treatment every year from all over the world, but also conducts clinical research on a grand scale for new treatment options, receiving the most grants and total grant dollars from the National Cancer Institute.[3]

This setting makes the RML a valuable asset in the fight against cancer. We develop, provide, maintain, and enable the collections that researchers need to move their work through the scientific and evidence-based process of treating the various forms of the disease. We have the traditional physical library space on the 21st floor of the T. Boone Pickens Academic Tower, one of many buildings in the Texas Medical Center belonging to the MD Anderson Cancer Center.

In this space of slightly more than 18,000 square feet, users can access our print monographs, our bound print serials, open study space and group study rooms, reference assistance, and computer technology enabling them to access our electronic resources on-site.[4] In any number of ways, we are experiencing the same crises of tradition regarding how to plan and implement this space in the digital age that has long since established itself as the forward path of information exchange. "Do people still come to the library?" we're constantly queried.

We, as librarians, know the answer is an assertive "yes." Users walk into our library every day to use the space and all of the amenities that we provide. Recent fiscal year 2013 numbers show that the RML has tracked 91,000+ in-person visits, with more than 2,700 circulated items, 12,000 scanned or photocopied documents, and

» Upon falling, the duct work struck and damaged the pipes of the fire suppression system and released hundreds of gallons of water onto the serials below for eight minutes.

60,000 reference questions answered, among other metrics.

Depending on view or opinion, these numbers mean different things to individual observers, but to the staff of the RML, these are significant numbers that are continuing to grow and are concretely tied to the physical presence that we have in the MD Anderson complex. We have a material presence that many stakeholders find valuable. This is reason enough for our staff to be actively involved in its preservation and continuation of services. It drives us to not only meet the minimum levels of performance but to consistently exceed those levels in our commitment to MD Anderson's core values.

THE INCIDENT

On October 17, 2013, a large section of HVAC duct work dislodged from its ties in the ceiling above shelves of bound print serials in the Research Medical Library. Upon falling, the duct work struck and damaged the pipes of the fire suppression system and released hundreds of gallons of water onto the serials below for eight minutes.

Response to the disaster was swift, involving all library staff members, several MD Anderson entities from various departments, and outside contractors. The plans in place before the event, as well as the creative thinking by all involved, led to a stressful but ultimately successful response to the unforeseen. What started out as disaster recovery, quickly evolved into a need to assess our print serials collection in a library serving a cancer hospital, its clinicians, and its researchers.

PLANS IN PLACE

Houston is no stranger to natural disasters on an epic scale. Our most pressing concerns are heavy rain and flooding due to the moist subtropical climate and proximity to the Gulf of Mexico at barely above sea level. Tropical storms and hurricanes are the antagonists that instantly set every Houstonian on edge when present near our metropolis.

As home to the Texas Medical Center, the largest medical complex in the world,[5] there can be a heavy toll on people, operations, and progress in the local healthcare system when these events strike. Hurricane Alicia in 1983, Tropical Storm Allison in 2001, and Hurricane Ike in 2008 were direct hits on Houston, causing multiple deaths and billions of dollars in property damage.[6] Tropical Storm Allison hit the Texas Medical Center particularly hard and heralded a mass overhaul of disaster response among the institutions based here.

Influenced by this persistent risk, MD Anderson has put great effort into coordinating its 20,000 employees in the proper preparation on disaster preparedness and recovery to continue to operate as a top cancer care center should be able to operate in a time of crisis.

When I came to the RML in May 2013 I was instantly impressed with the cohesiveness of operations in both the library and the organization at large. Keeping such a complex machine in working order, even in times that are not a crisis, requires dedication and clear communication at all levels. MD Anderson had clearly been working to always move forward in service with high efficacy.

In the library, I became involved with the input and refreshing of the plans for our specific response to an emergency situation. Up-to-date non-business email addresses and phone numbers for library staff, a "call down tree" for order of contact, preparation of library materials prior to a major weather event, importance of items for recovery after an event, a business continuity plan for services, thorough discussions, and other items were among the topics of preparedness.

This information was collected and made available to all library staff, and was submitted to higher administration to show that efforts had been made to meet the expectations of the institution. It was revisited regularly to ensure the accuracy of the information or to address updated expectations of preparation. With this framework in place, there was a solid platform to launch a response to a major disaster. Planning and execution do not always fall in line with each other, however, and the RML had a chance to use its planning with a healthy dose of critical thinking when our ceiling literally caved in.

By coincidence, I was the librarian staffing our information desk at the time of the incident. It started out with several loud bangs. Initially, I rolled my eyes and expected to have to ask some rowdy patrons to quiet down. But as I stood up, I watched pieces of ceiling tile crash down on the serials stacks, followed by another louder commotion—water beginning to pour from the ceiling. Almost immediately, the fire alarm was triggered.

REACTIONS

Along with myself, the library patrons that witnessed the falling building materials were understandably immobile. From the initial loud clang to a blaring fire alarm, no more than 20 seconds had elapsed, and that was barely enough time to gather thoughts. However, it was necessary to move fast. Thankfully, no one was injured. Pieces landed on the tops of the book shelves with no one browsing the aisles. Considering that we have a steady stream of patrons in our library every working day, it was a relief to see that every person in the vicinity was safe.

It did not take long for other library staff to race to the public space to see what had happened. We began to communicate to individuals to move toward the stairwells to await instructions, as we would typically do in a fire drill or evacuation, and the facilities hotline was contacted to report what was happening. While the water continued to fall, the local Houston Fire Department station was automatically notified and members of our facilities and operations departments began to arrive. In the end, the water stopped raining down on our collections, non-employees were cleared from the area, and we began to absorb what had happened.

A common truism used in literature, movies, art, and culture asserts that there is a vast difference in expecting what might happen and reacting to the reality of an event. The planning that I had seen put in place and had the opportunity to influence was invaluable when our serials were damaged. So many people had spent so much time making the plan, and the practicality of that planning showed when it was put into action. It certainly was not an exact

» The entire day was an intense learning experience for our staff. After all of the uproar, we were able to resort to the plans in place, assess what would work and what would not work from those plans.

alignment, but without it, our efforts to assess and recover could have proven to be extremely difficult.

We had been preparing for a weather event, and we were expecting to have some warning when one was on the horizon. This event was entirely contained within our physical space, immediately over our collections, and without any warning at all.

The entire day was an intense learning experience for our staff. After all of the uproar, we were able to resort to the plans in place, assess what would work and what would not work from those plans. By the end of the day, damp bound serials were being carted to a facility for freeze-drying, enabled by a standing contract between the University of Texas System and Blackmon Mooring. As a precaution, all serials were moved from the shelves by the company, even if there was no apparent moisture on the volumes. Our monographs, separated from the serials by distance, were able to remain on their shelves, helping to minimize circulation interruption.

We remained closed for two business days. With heavy plastic sheeting partitioning the affected area from the rest of the library, we were able to open to the public with limited technology but full staff availability. After the initial response, it was time for recovery. While crews went to work preserving our serials and bringing them back to the shelves and workers fixed and secured the HVAC ductwork and repaired the space, the librarians began their assessment and recovery of the ideas and necessity of our print journals.

COLLECTION REVIEW

Prior to the events of October 17th, 2013, various iterations of a team of RML librarians and staff had met periodically to discuss all aspects of the collection: monographs and serials, print and electronic. This team, referred to as the Information Resources Team (IRT), was quickly reformed to address the state of deselection in which we found ourselves. For some time, rumblings of analysis and reduction of the print collections had been discussed among the IRT, but there was no pressure or impetus to act. A mild influence was concern about the library space being co-opted for other non-library uses, as the team watched other libraries in the University of Texas system suffer such fates.

The first step was to assess what exactly composed the print serials. Various numbers of titles existed from different sources (such as Serials Solutions, Voyager, WorldCat, SerHold), and that was immediately reconciled and clarified by the Cataloging Librarian. Next, drawing from sources such as the Research Medical Library's written collection policy, policies of other National Comprehensive Cancer Network libraries,[7] and the knowledge of the staff, a workflow algorithm was created in an attempt to streamline the analysis. While this change was met with resistance and a feeling of oversimplification, with some give and take and regular meetings the concerns of the IRT were translated into a spreadsheet. I began to record facts, assess titles, and make recommendations to satisfy the elements of that sheet.

Across the 23 shelves, 764 titles were assessed and recommended for selection or deselection. The final totals for either decision have yet to be confirmed, but early estimates for deselected titles look to be about 50 percent of the current collection's numbers. The next steps involve the physical removal of the deselected volumes, and a few options are on the table.

As mentioned, the Research Medical Library participates in the Texas A&M and University of Texas' Joint Library Facility in College Station, TX.8 This facility allows for the combined collections of libraries in the state of Texas from both systems. As a result of this collaboration, we will have access to free Interlibrary Loan from items in that facility. We can also claim items that we own but that have also been contributed by other libraries as a "resource in common," allowing us to count Association of Research Libraries statistics, if we choose. And we can maintain the idea of a physical library collection, albeit located in another physical space.

REFLECTIONS

Every librarian's experience will be drastically different when facing those things that we had no notion would cross our paths. I pursued an education as a librarian that brought out skills that I had known to be true as well as those I did not know that I had. Working with other like-minded and skilled individuals equates to so many creative answers to the complexities of our ever-changing roles as information professionals. Sometimes those complexities are simple with low risk for upending the paradigm, and sometimes they are extremely trying with no clear conclusion or solution.

When the Research Medical Library was faced with the unpredictable, we responded, and we have grown as individuals and as a library. I credit this evolution to readiness and planning expected by the MD Anderson Cancer Center to continually serve our stakeholders, and the adept skills of the individuals that were able to make decisions for which there was no plan. ■

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FOOTNOTES:

[1] The Texas Medical Center Library http://www.library.tmc.edu

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Re-re-thinking the Integrated Library System

» Interoperability allows libraries to choose the discovery solution that delivers the best user experience.*

BY NEIL BLOCK

There has been much ado about the next-generation integrated library system (ILS). Often coined a "library services platform," the re-imagined ILS promises an open platform, using application programming interfaces (APIs) that move libraries away from a print-centric approach towards one that better accommodates digital content and services from a variety of sources.

Fundamentally, of course, libraries are about serving their users. To meet this role, libraries can avail themselves of an array of technologies that enhance the patron experience in a multitude of ways. To ensure efficiencies, these technologies must work together, and they must interface with the back-end ILS system, which must be open (through APIs) to support many different patron-facing functions.

Historically, the ILS was developed to manage back-end processes: acquiring and describing materials and using software to control the circulation of those items. The ILS provided benefits to librarians by automating processes that were formerly done manually and delivering an online patron access catalog (OPAC), which allowed for the basic discovery of the library catalog by end users.

Recently, a next-generation ILS has emerged. Whether provided in a Software-as-a-Service (SaaS) model or in a locally installed, stand-alone model, much of the new ILS lays claim to a renewed approach to workflows in the form of a services platform. The new ILS may also seek to address digital content in a more optimal way.

But if we remember that libraries are about serving their users, how does the new library services platform re-think and improve the user experience for the library community? Or, in other words, how does the new platform truly address patron needs in today's digital age?

These questions really lead to a more fundamental inquiry. What are "patron needs" and how do we deliver solutions and tools to address them? Shouldn't the needs of the user community be the primary focus of our automated systems?

The obvious answer for academic libraries is that we must "enable research." But how we do this in the most optimal way requires us to really rethink the relationships between the ILS, the discovery layer, and—possibly—the priorities that we see in libraries today.

Let's start with a given. Today's academic libraries are focused on building a comprehensive collection of physical, electronic, and digital material to meet the specific

needs of their institution. The majority of academic libraries spend most of their material budgets on digital content. This naturally makes sense; it's where the core mission of "enabling research" begins. Yet, at the same time, most staff resources and the largest software investments still focus on managing the physical inventory of the library, or legacy initiatives.

Considering that discoverability of all content—print, electronic, and digital—is fundamental to the library's mission, we must shift our focus to the front end, which is more in line with the library resources that are most-used. Acknowledging that discovering of the full collection is a primary benefit to the entire campus user population, the importance of the discovery layer only increases.

When we evaluate the ILS, then, we must examine its usefulness and functionality with a focus on its "interoperability" with the discovery service of the library's choosing. So what does this evaluation entail in practical terms?

THE ROLE OF THE TRADITIONAL ILS

Typically, libraries will assert the need for a new ILS after it has reached the end of a long lifespan. When looking at a new ILS, there are hundreds—or sometime thousands—of criteria to consider and evaluate. Each module (from cataloging, to circulation, to reporting) must be examined in detail to determine compliance with a host of requirements.

In the past, the OPAC required its own assessment. As the old gateway to print, the OPAC did not only constitute the search environment; it was, in effect, a portal of sorts—the one place for searching and for patron activities. Library users could login to perform a variety of functions, from placing holds to paying fines.

With time, however, the OPAC became outdated when libraries began adopting resources that used modern web environments, which changed user expectations. The user experience now took center stage, and in reality the old OPAC was not up to the task. As a result, new environments emerged, both proprietary and open source, which produced a paradigm shift—the user became the focal point.

Now, the expectations were clear: ease of navigation, intuitive search, fewer clicks, quick and relevant results. Yet, truly meeting those expectations was a different challenge altogether.

THE DISRUPTION OF DISCOVERY

It is in this context that discovery made its appearance as a new genre. In some cases, discovery is defined merely as the library's web presence with an integrated search box to explore the library's collections. In other instances, discovery also includes a central index for users to find e-resources as well as items from the library's print holdings. Whatever the definition, the importance of discovery cannot be overstated. If you lose the user in discovery, you risk losing the user to the open web, and bringing that user back to the library may be difficult.

The ILS, of course, is not entirely lost in this change. In most cases, ILS vendors developed discovery layers that interfaced seamlessly with their proprietary back-end. Yet these discovery layers were tied to the ILS—an add-on, in fact—that may have more to do with incentivizing the ILS purchase than presenting a fully-realized discovery option, leaving libraries little or no choice.

Today, however, we are witnessing an important change brought about by a move towards open systems and the use of APIs. Most ILS vendors now offer libraries the option to choose a front-end that meets their patrons' needs, irrespective of the ILS. With the availability of APIs, libraries can choose what works best for their users with a lot of room for flexibility.

Envision a scenario where a library uses an ILS from one vendor, alongside an open source content management system (such as Drupal), and an index-based discovery service from yet another vendor. Or take a case where a library uses the index-based discovery service from one vendor within the proprietary discovery/web environment developed by the ILS vendor. The discovery service can now be detached from the ILS while allowing for all ILS-based functions (such as the patron functionality noted above).

FOCUSING ON THE END USER

When the discovery layer is detached from the ILS, libraries have real choices. Within discovery as a solution, libraries can also decouple the user interface from the source of the full-text article content.

The library must be able to select the discovery solution (consisting of their preferred user interface, and the desired article content) that best meets its end user requirements. This choice is critical as we look at where the focus currently lies.

End-user outcomes and experiences are fundamental to the success of the library. End users are using the library and its services, not an amalgam of library vendors. It is the overall experience that they will judge, come back to, or abandon. It is essential to put the library's best user experience forward to enable user success and encourage "repeat business."

Instead of looking at incremental improvements in staff functionality, then, we must look at the end user and determine what solutions, or combinations thereof, best serve his or her needs.

Our evaluation criteria should evolve from an "inside-out" approach, to an "outside-in" methodology. Outside-in means we should change how libraries select and deliver solutions that align with successful end-user outcomes.

As mentioned, academic libraries invest in digital resources and physical material to create a modern library collection to support research. We should then carry that philosophy over to our customers—our end users—and should seek to provide the very best discovery solution to expose this important content.

The academic library community should evaluate user-facing solutions that provide those successful outcomes in a more rigorous manner, similar to the way the ILS is evaluated. A library shouldn't be satisfied because a discovery solution is bundled in as part of the ILS solution; the library should be seeking the best discovery experience for its users on its own merits.

Given the centrality of the end-user and the importance of the discovery experience, libraries should review the discovery service in the context of the value it provides to the entire community. There are many facets to discovery: the user interface, the content that can be incorporated, the relevance and value ranking, options to tailor the solution for specific research needs, and the ability to use APIs to interoperate with the ILS.

The choice of a discovery service—or the source of full-text article content within discovery—must be independent from the ILS. What matters, ultimately, is the ability of the ILS to use discovery by integrating with the knowledgebase, authentication, the learning management system and other critical services within the organization.

This is where openness—as represented by published and well-documented APIs—becomes critical. The next-generation ILS or library services platform is built using APIs.

A simple search for APIs in library automation shows that all major ILS vendors develop their systems using APIs to enhance interoperability, with the goal being an open system environment. The open system environment allows academic libraries the freedom to choose the integrated library system of choice plus the best discovery solution, regardless of vendor.

Openness means choice. Openness means interoperability. When software applications are open, libraries can choose the discovery solution that delivers the best user experience and trust that all systems will work well together, regardless of the ILS back-end restrictions.

But the promise of openness and interoperability is often different than the reality. As vendors, we must deliver on the promise; as librarians, we must demand as much.

CONSIDERING DISCOVERY

Librarians should re-think their approach to integrated library systems and move towards a discovery-centric platform that places the library's investment in discovery on an equal footing with the library's collection management. The term "investment" is used deliberately. It should represent the totality of the library's commitment to providing an excellent discovery experience for its community. The discovery environment is a complex ecosystem in its own right, and the selection of the discovery solution should be given important and independent consideration in all cases.

Rethinking the ILS means shifting our attention, shifting the evaluation method so it becomes more outside-in, towards a user-focused discovery model. Providing access to content of all kinds is imperative in itself, yet the "how" is equally critical.

Librarians should assess each discovery service and choose based on its ability to ensure the discoverability of the entire universe of the collection: full-text content, the library catalog, subject databases, e-books, and institutional repositories. Re-thinking the new, end user-focused ILS means all systems must support and integrate with the discovery solution if it is to be truly next-generation in performance, not just in words.

ABOUT THE AUTHOR: Neil Block, MLS, is the Vice President of Discovery Innovation, Academic Libraries for EBSCO Information Services. In that role, he is responsible for continuing to accelerate the success rate EBSCO Discovery Service (EDS) has achieved in the academic library market. Neil also highlights other software-as-a-service solutions offered by EBSCO, including the new Full Text finder.

Prior to joining EBSCO, Neil spent 20+ years in the integrated library system marketplace, primarily at Innovative Interfaces Inc., where he served in senior executive roles, including president. Neil was also Vice President, Worldwide Sales with Polaris Library Systems.

Neil has a background in academic and special libraries and earned a Master of Library and Information Science from the University of Wisconsin-Milwaukee.

ALA PRESS RELEASE

ALA Statement on Charlie Hebdo Attack

The American Library Association President Courtney Young released the following statement regarding the attack on the offices of Charlie Hebdo in Paris.

The American Library Association condemns in the strongest possible terms the recent attack on the offices of Charlie Hebdo in Paris and the deaths of the twelve people there.

Libraries and the press are the bedrock of democratic societies. Free expression is essential for librarians and journalists to do their jobs. Free speech is integral to the ethical values and best practices for both professions. Such attacks are counter to the values of access to information with diversity of views—and to the values of civic engagement, which encourages people to read and discuss these views without fear.

The American Library Association reaffirms our support of the freedom to publish, read, and discuss. This horrific attack violates Article 19 of the Universal Declaration of Human Rights, which ALA has endorsed:

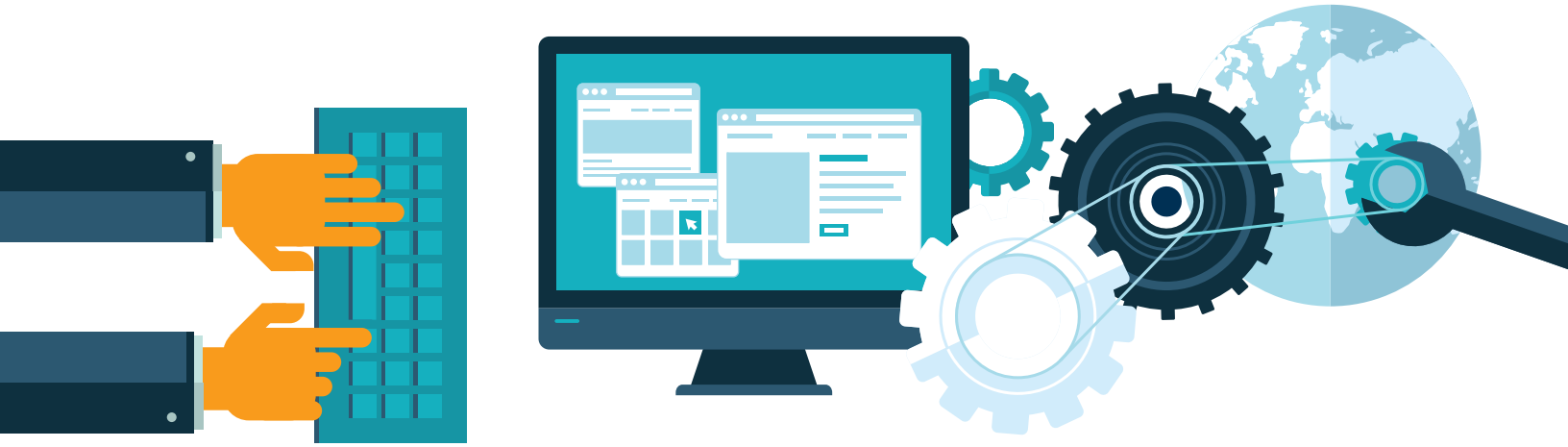
"Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference to seek, receive, and impart information and ideas through any media regardless of frontiers."

The ALA Library Bill of Rights and Code of Ethics also embodies these principles without apology.

The news is still evolving in regard to this tragic event. We will continue to monitor the situation. We extend our solidarity with our library colleagues in France, particularly the Association of French Librarians, for their continued passion and service on behalf of freedom of speech in French society. ■

Developing a Library Content Services Portal

» Meeting a technology initiative in a new strategic plan spurred the development of improved LMLO workflows.



BY SEAN CROWE AND JAMES VAN MIL

Soon after the 2014 arrival of Dean and University Librarian, Xuemao Wang, the University of Cincinnati (UC) Libraries drafted a strategic plan. The process was guided by a steering committee consisting of several library faculty and staff members, as well as Anton Harfmann, Associate Dean for Academic Technology and Facilities at the UC College of Design, Architecture, Art, and Planning. The effort was led by Dean Wang, with consultation from Gary Strong, University Librarian Emeritus from UCLA.

The plan roughly consists of four pillars: Digital Technologies and Innovation, People, Space, and Data to Information to Knowledge.

In harmony with this emerging plan, we worked together to develop a technology initiative to automate common, resource-intensive workflows into a web portal for internal operations. The portal is targeted primarily to library acquisitions and collection development support.

Overseen by the Content Services Division (formerly Library Technical Services), the portal is named Tricera-shopper in honor of a sculpture titled *Triceracopter: The Hope for the Obsolescence of War,* by late Cincinnati artist and UC faculty member, Patricia Renick. Triceracopter is on permanent display at the UC's Langsam Library.

The Tricera-shopper portal currently comprises two active web services: lost, missing, long-overdue reports (LMLO); and a spreadsheet-to-MARC invoice conversion tool. Ongoing development should include a serials renewal review tool, an e-book cover-browse API, and collection statistics module.

The development of the software components for interfacing with our Innovative, Sierra ILS; and the lost, missing, long-overdue report index took place over two months. The technology initiative to build this LMLO index and selector portal aligned directly with the collection development objective in the new strategic plan:

"Redefine collection development and management to create opportunities for innovative, transformational and responsive approaches to collection building."

(UC Libraries: Transforming, Data > Information > Knowledge, Objective 4).

WORKFLOW LOGJAM

The University of Cincinnati Libraries had a long-established manual workflow for the review and replacement of lost, missing, and long-overdue materials. As part of the workflow, Library Technical Services staff created reports of lost materials, which were manually compiled and organized by subject into spreadsheets for distribution to subject-selectors for review.

The process to build and compile the reports required many hours of staff time and, because of the time-intensive nature of the workflow, reports were scheduled annually. Over time, because of the manual nature of the reports, unreviewed LMLO materials built up in the system and resulted in large backlogs for review and potential replacement. Large spreadsheets could prove intimidating to selector librarians and sometimes ranked low in priority alongside other collection development duties.

Subject specialist librarians, who oversee funds organized by discipline, conduct collection development at UC Libraries. These Selector librarians make initial purchase as well as replacement decisions. Staff members in Acquisitions/Technical services have conducted the LMLO workflow to support those replacement decisions. Formerly, staff used the List Creation tool built-into Innovative Inc.'s Millennium, and later Sierra ILS to generate lists of lost and missing materials.

After exporting the data into spreadsheets, they would divide and distribute reports to selectors by discipline. Selectors review the spreadsheets and make purchase

requests, through regular acquisitions channels, for materials they wish to replace. As part of the former workflow, ISBNs were extracted from the report spreadsheets and batch searched in the GOBI interface for Yankee Book Publishers, a primary domestic book vendor for UC Libraries.

The figures from the recent (and final) LMLO manual report, run in the spring of 2014, showed a process with a notably low return for significant staff commitment and illustrate why this workflow was ripe for automation. The 19 subject selector librarians spent at least 40 hours of staff time to generate reports, reviewed 2,100 items, and recommended 80 replacement purchases.

WORKFLOW REDESIGN

When considering solutions for this workflow, we preferred options to automate as much of the report compilation as possible while also building a user-friendly interface to allow for passive review of titles, with built-in search and faceting features.

Another significant ongoing strategic initiative of the UC Libraries is to build a next generation institutional repository. Based on Project Hydra, our repository, *Scholar@UC* is currently in the early-adopter pilot phase. The user interface for the *Scholar@UC repository* is built with Ruby on Rails, a web framework of the Ruby scripting language.

The development of the Tricera-shopper selector portal was an opportunity to extend our use of Ruby on Rails outside of the repository project and build software development skills within the Content Services department through a project focused on workflows within the library.

EMBRACING CHANGE

With an upgrade from Innovative Inc.'s Millennium to Sierra ILS in April 2013, UC Libraries staff gained access to a read-only PostgreSQL database backend to the ILS, SierraDNA. Access to this database allowed staff in the Content Services department knowledgeable in SQL querying to begin to reimagine workflows that depend on the gathering and analysis of library collections data. However, relying solely on raw SQL queries for reports perpetuates the problem of funneling access to increasingly important collections data through a small number of technically trained staff.

Ruby on Rails has helped to solve this problem with a stack of technologies that enable rapid development of web applications. Ruby on Rails is an open source web application development framework, written in the Ruby programming language, which emphasizes the *convention over configuration* software development paradigm. This paradigm allows a programmer to conform to well-developed software patterns to rapidly write new functionality.

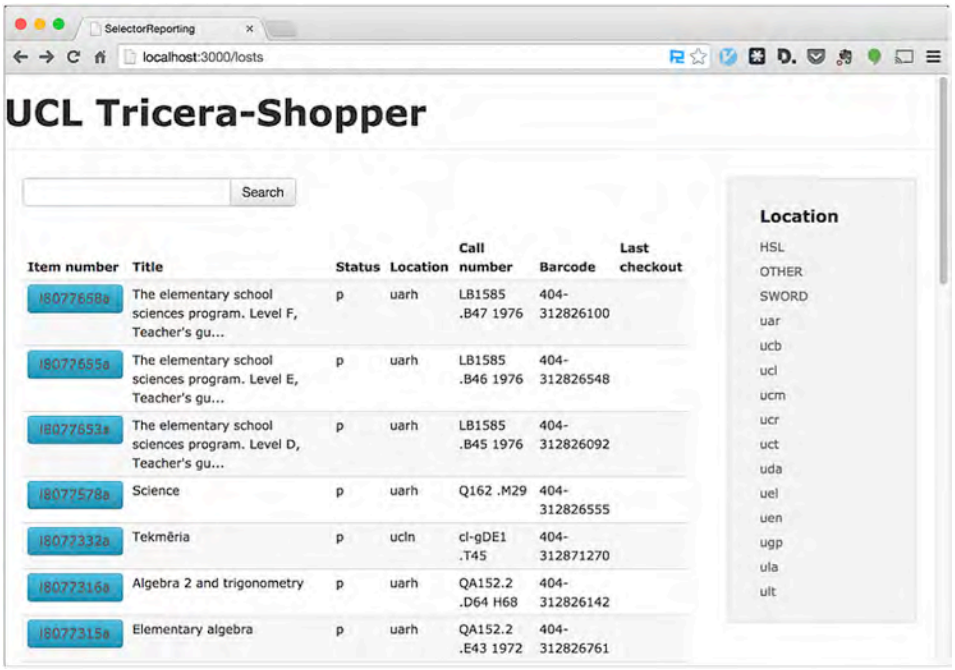
An important part of the Ruby on Rails framework is the ActiveRecord gem, which eases the work of building a database-driven application by providing a simple interface for querying databases in the same language as the application, as an alternative to embedding SQL queries within an application.

Prior to beginning work on building Tricera-shopper, we developed a Ruby on Rails-based gem called ActiveSierra, a gem that uses ActiveRecord to interface with the PostgreSQL database behind the Sierra ILS. ActiveSierra models the tables and relationships in the relatively complicated Sierra ILS database, allowing anyone with PostgreSQL authorization in Sierra to quickly and easily access data within the context of a Ruby

EXHIBIT 1

```
SELECT "item_view".* FROM "item_view" INNER JOIN "item_record" ON "item_view"."id"
= "item_record"."record_id" INNER JOIN "bib_record_item_record_link" ON "item_
record"."record_id" = "bib_record_item_record_link"."item_record_id" INNER JOIN "bib_re-
cord" ON "bib_record_item_record_link"."bib_record_id" = "bib_record"."record_id" WHERE
"bib_record"."id" = $1  ORDER BY "item_view"."id" ASC LIMIT 1  [["id", 420907795010]]
```

EXHIBIT 2



Item number	Title	Status	Location	Call number	Barcode	Last checkout
i8077658a	The elementary school sciences program. Level F, Teacher's gu...	p	uarh	LB1585 .B47 1976	404-312826100	
i8077655a	The elementary school sciences program. Level E, Teacher's gu...	p	uarh	LB1585 .B46 1976	404-312826548	
i8077653a	The elementary school sciences program. Level D, Teacher's gu...	p	uarh	LB1585 .B45 1976	404-312826092	
i8077578a	Science	p	uarh	Q162 .M29	404-312826555	
i8077332a	Tekmëria	p	ucln	cl-gDE1 .T45	404-312871270	
i8077316a	Algebra 2 and trigonometry	p	uarh	QA152.2 .D64 H68	404-312826142	
i8077315a	Elementary algebra	p	uarh	QA152.2 .E43 1972	404-312826761	

» In harmony with this emerging plan, we worked together to develop a technology initiative to automate common, resource-intensive workflows into a web portal for internal operations. The portal is targeted primarily to library acquisitions and collection development support.

» **Refreshed reports of lost, missing, and long-overdue materials will run monthly, allowing selectors to browse titles and make requests for replacement. Titles not selected for replacement will be dispensed as part of established batch withdrawal workflows.**

on Rails application, and to interact with records from Sierra as native Ruby objects.

For example, a query to get a barcode from the first title in the database is transformed from this verbose SQL query in **Exhibit 1** into this comparatively simple ActiveRecord statement:

"BibView.find_by_record_num('1000002').item_views.first.barcode"

Development of ActiveSierra is ongoing as a separate project and provides a useful gateway to library collections data for use in other projects.

PROGRESS

The lost, missing, long-overdue index, shown in **Exhibit 2**, builds on the access to the Sierra ILS provided by the ActiveSierra gem to provide a web-based search interface where library selectors can login to browse and search lost, missing, and long-overdue items from the library catalog. The interface is populated by a batch task which searches the Sierra database, creates entries in a database managed by the web application, and indexes the objects in an instance of the Solr search engine, also managed by the web application (via the Ruby gem *Sunspot*).

The search interface currently features search by various metadata fields, as well as faceting by library locations and call numbers, to help selectors scope to items within their subject responsibilities. Additional functionality includes email notifications for refreshed report availability and links to search for items by ISBN at external services (such as the YBP GOBI service).

Refreshed reports of lost, missing, and long-overdue materials will run monthly, allowing selectors to browse titles and make requests for replacement. Titles not selected for replacement will be dispensed as part of established batch withdrawal workflows.

The ActiveSierra Gem and Tricera-shopper app were developed on laptops, using GitHub for version control and archiving. After a few informal reviews of the interface by Content Services team leaders, the app was finalized for a beta release. Server space was secured on the UC Libraries Digital Projects and Repositories server for the pilot phase of Tricera-shopper.

The operational details of the LMLO index were derived from departmental documentation of the manual-report process. Details such as query parameters for building the index of lost materials, process timeline information, and fields to include in the item views were all gleaned from the manual process.

A small group of selector librarians will pilot the LMLO interface in the spring of 2015. The pilot period is tentatively set for three months, with scheduled monthly reports and review. Materials are reviewed in the LMLO index and replacement is requested through established acquisitions workflows (YBP GOBI interface).

STRATEGY YIELDS RESULTS

The ActiveSierra gem, Tricera-shopper selector portal, and LMLO report index represent serious efforts to translate the spirit of the new UC Libraries strategic plan into transformative technology initiatives. Pillars of the strategic plan, such as People and Data > Information> Knowledge, give UC Libraries faculty and staff a framework to guide projects and enrich tech skillsets. ■

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RESOURCES:

http://www.libraries.uc.edu/about/strategic-plan.html
https://github.com/jamesvanmil/tricerashopper
https://github.com/uclibs/active_sierra
https://github.com/sunspot/sunspot
http://www.libraries.uc.edu/about/tricer-acopter-and-self-portrait.html
http://rubyonrails.org/

Rapid Growth in 3D Printer Use Raises Public Policy Issues for Libraries

A new report encourages libraries to develop policies that address the related complex issues.

Public policy issues surrounding 3D printers are now coming to the fore as the technology becomes more widely available in America's libraries and homes. To ensure people are able to use 3D printers responsibly and effectively, librarians must now work towards developing policies in copyright, trademark, privacy, product liability, and more. Established, reasonable practices for 3D printing will enable this technology to best serve our communities and inform the laws, regulations, and judicial decisions to come.

In a new report from the American Library Association (ALA), author Charlie Wapner encourages libraries, as leaders of the digital learning and 3D printing movement, to take a proactive role in developing institutional policies that address the social, technological, and political complexities that result from the rise of 3D printing. "Progress in the Making: 3D Printing Policy Considerations through the Library Lens" is available for free at http://tinyurl.com/3dpiplpdf (pdf).

U.S. libraries are in the vanguard of the digital information revolution and are rapidly adopting 3D printers to provide opportunities for library patrons to engage in creative learning, solve community health problems, launch new products, and more. In the report, Wapner, who serves as information policy analyst for the ALA Office for Information Technology Policy (OITP), outlines the role 3D printing now plays in K-12 schools, higher education, and public libraries and analyzes issues related to copyright, trademark, trade dress, and product liability that may arise from 3D printing in libraries.

"Given the many legal questions 3D printing gives rise to, libraries need to do more than provide their patrons with instruction in the basics of printer mechanics, maintenance, modeling, and scanning," writes Wapner. "It is in our best interest to think chiefly about what is practicable and consistent with the mission of libraries [in serving the public], and secondarily about what might eventually be held by Congress, regulatory agencies, the state legislatures, or the courts to be outside the bounds of the law."

The report is part of ALA's "Progress in the Making" series, an effort to elucidate the implications of 3D printing in the library context. It also examines various intellectual freedom issues raised by 3D printing. Deborah Caldwell-Stone, deputy director of the ALA Office for Intellectual Freedom, offers guidance to library professionals seeking to craft a 3D printer acceptable use policy that accords with the fundamental library value of free expression.

"Intellectual freedom principles espoused in the Library Bill of Rights and ALA Code of Ethics naturally extend to those tools, technologies, and services that enable library users to create content, including 3D printers," Stone said. "A written acceptable use policy for the 3D printer is a necessity if the library is to protect users' intellectual freedom while addressing concerns about safety, access, liability, and illegal use of the 3D printer."

Since there is little to no jurisprudence on 3D printing in the current legal environment, the report recommends that libraries begin establishing methodologies and regimes for 3D printing practices within their library institutions.

"If library professionals familiarize themselves with the budding policy debates surrounding 3D printing, they can help shape the laws, regulations, and corporate policies that coalesce around this technology in the coming years. One goal of our work around 3D printing is to make this possible," said Alan S. Inouye, director of the ALA Office for Information Technology Policy.

"Libraries are points of access to 3D printing technology for entire communities," added University of Wisconsin-Milwaukee School of Information Studies Dean Tomas A. Lipinski, who contributed to the paper and provides a sample warning notice that libraries may use with patrons to demonstrate awareness of the legal issues involved in the use of 3D printing technologies in libraries. "As a result, the library community is well positioned to play a key role as this technology advances. We just have to prepare ourselves and our patrons."

A panel of information professionals will gather to discuss the policy implications of 3D printing at "Library 3D Printing—Unlocking the Opportunities, Understanding the Challenges," a conference session that will take place during the 2015 American Library Association's (ALA) Midwinter Meeting & Exhibits in Chicago. The session will be held from 10:30–11:30 a.m. on Sunday, February 1, 2015. ■

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