NeXT SPACE

No. 6

Search for

Tomorrow

The OCLC Cooperative

Countries and territories served	**112**
Libraries outside the United States	**11,473**
Governing Members	**9,751**
Members	**21,038**
Participants	**28,782**

April 2007

WorldCat Statistics by Format *April 2007*

Type of Material	Number of Records	Percentage of Total	Location of Items Cataloged
Books	70,257,986	84.36%	1,016,865,868
Continuing Resources [Serials]	3,375,869	4.05%	34,292,202
Visual Materials	2,631,912	3.16%	22,289,305
Maps	1,152,423	1.38%	5,024,413
Mixed Materials	490,675	0.59%	307,665
Sound Recordings	3,060,596	3.67%	27,128,464
Scores	1,895,489	2.28%	10,945,403
Computer Files	421,935	0.51%	1,424,951
Totals	**83,286,885**	**100.00%**	**1,118,278,271**

Compiled from Cataloging File Statistics: Analysis of Online Bibliographic Records

Search for
Tomorrow

![NeXTSPACE logo]

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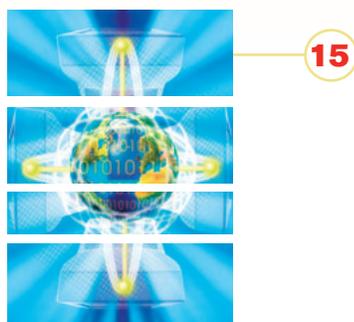
COVER STORY

It's fair to say that Google, along with a host of other Internet search engines, have fundamentally changed the relationship between humanity and knowledge. But the battle for search supremacy is hardly over. In fact, search is in its early days. And several experts believe that search stands today at the threshold of a new era. Opportunities exist for other companies and organizations, including libraries, to grab a portion of this rapidly growing phenomenon.

ADVOCACY

Neal Petersen is not your typical yachtsman. Born in South Africa under Apartheid, the future world traveler started his life under very different circumstances. You would never have guessed he would learn navigation and boat design in a library—and go on to become the first black man to race solo around the world.

PRODUCTS AND SERVICES

OCLC network-level services can connect users searching on the Web, where most people start their search, to their libraries and, using a broad range of intelligence about objects, identifiers, people, places and institutions, are able to provide unprecedented context around the items libraries hold.

The rush for gold records—
mining value from metadata

This fiscal year has been a gold rush of sorts for the OCLC cooperative—members have added 17 million records to WorldCat as of March 31, 2007.

Fortunately, we recently recalibrated the odometer whereby we watch World-Cat grow. As you know, each record that enters the WorldCat bibliographic database receives a unique OCLC number. Until last November, there was a ceiling of 100 million OCLC numbers.

That 100 million must have seemed more than enough for the foreseeable future for Fred Kilgour and his staff back in 1971, when WorldCat began operation. Indeed, it took nearly four years for the OCLC cooperative to input the first million records. For the next 20 years, member libraries added between one and two million records annually. The chart shows recent trends.

In March, OCLC started loading some 35 million article citation records into WorldCat.org, and each of these records will get an OCLC number. Thus, Connexion users working in WorldCat will see a spike in the size of OCLC numbers as these citation records are added to and visible only on WorldCat.org. Indeed, some 15 million numbers were added in March, with the 100 millionth added on March 29 by Library Connection, Inc., Windsor, Connecticut.

As we accumulate metadata faster than ever, we are also starting to make use of it in new and exciting ways. Here are three creative applications.

FictionFinder is an OCLC Research prototype that provides access to about 2.8 million works of fiction found in WorldCat. You can search not only by authors and titles, but also by genre, fictional character, imaginary place or setting and subject. When you discover an item you are interested in, FictionFinder can help you find a copy in a nearby library. You can see it in action at OCLC ResearchWorks. **http://fictionfinder.oclc.org/**.

Another OCLC Research prototype is WorldCat Identities, which creates a summary page for personal and corporate names referenced in WorldCat. There are 18 million unique pages for authors in WorldCat. Each Identities page presents a visually attractive summary for the individual identified, including total works, genres, roles and classifications. There is also a publication timeline and an audience-level indicator. You can read more about this prototype in this issue of *NextSpace*, and you can see it at **http://orlabs. oclc.org/Identities**.

My final example is our new citation service, which was introduced in March. If you are working on WorldCat.org, you can now view a bibliographic record in various citation formats, including APA, Chicago, Harvard, MLA and Turabian, and then copy and paste your preferred format into your own applications.
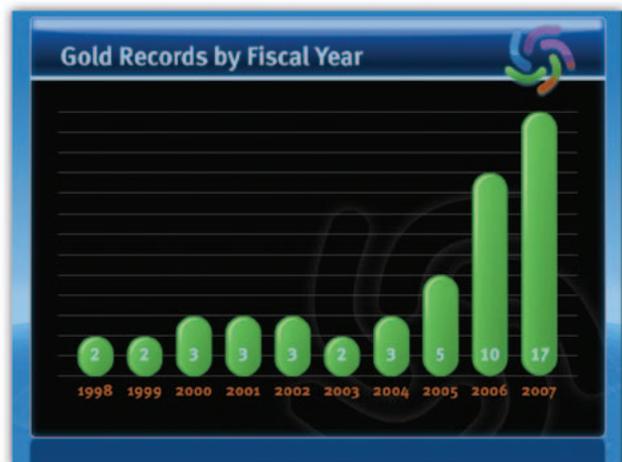
Each record that enters WorldCat is assigned an OCLC number. When the number reaches a million, it is called a Gold Record. There have been 17 Gold Records so far in this fiscal year.

For 36 years, thousands of catalogers and librarians have been contributing metadata to WorldCat, with each contribution creating a more valuable resource for the entire cooperative. Technological advances are enabling us to display our metadata in attractive, exciting and powerful new ways. In terms of network effects, the more institutions and records we have, the more benefits for our collaborative endeavor. As we find new ways to make our metadata work harder, we make WorldCat even more useful for more people around the world. ■

Jay Jordan
OCLC President and Chief Executive Officer

Building a community of WorldCat users

User profiles to debut in WorldCat.org

WorldCat.org is a new destination Web site *that allows people inside and outside the library environment to discover and use the resources of WorldCat libraries.*

Establishing a social network of the world's library users will soon take a major leap forward with the introduction of WorldCat.org personal profiles. Personal profiles are "My WorldCat Accounts" that allow users to create identities at the WorldCat.org site by listing name, location, interests, occupation, photos, e-mail address and links to other personal accounts, as well as library affiliation. In addition, the profiles allow users to manage contributions to WorldCat, such as reviews, ratings, artwork and recommendations. It is the first step in a series of new WorldCat.org features designed to start a Web conversation by mixing libraries with users.

Over the next year, OCLC plans to add a variety of social services to WorldCat.org, including tagging, list creation and sharing, citation management and personal cataloging.

WorldCat.org is a new destination Web site that allows people inside and outside the library environment to discover and use the resources of WorldCat libraries. People can go to this site to search WorldCat or to download the new WorldCat search box.

`Visit` **www.worldcat.org** for more information.

Reinventing ILLiad

The distributed resource sharing tool sports a new look and a new efficiency

Among the enhancements:

- An overhauled, rearchitected, CSS-based Web interface
- Updated communications tools, including RSS feeds for user notifications and ILLiad-based system alerts
- A redesigned authentication model to provide flexibility for additional methods and continuance of current practices
- Integration of new WorldCat Resource Sharing Web services (version 1.2) to provide more timely request handling and additional flexibility of request processing
- More accurate lender strings from the WorldCat SRW Web service, which has been enhanced to allow ILLiad to view filtered lender strings based on the volume and year in the resource sharing request

`Visit` **www.oclc.org/illiad/7_2overview.htm** for more information.
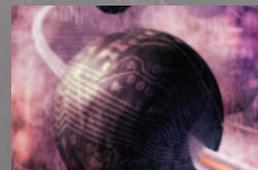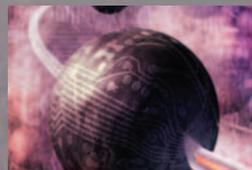
NetLibrary launches new eAudiobook content

Libraries can purchase individual titles from Books On Tape and Blackstone Audio one at a time, just like eBooks

NetLibrary, a division of OCLC and a leading platform for eContent to libraries worldwide, now offers a selection of over 2,000 perennial best-sellers, timeless classics and hot new releases from Books On Tape and Blackstone Audio. The new titles complement the collection from Recorded Books, which is available as a subscription program.

Featured Books On Tape authors from Random House include: Mitch Albom, Maya Angelou, Jane Austen, Ann Brashares, Libba Bray, Meg Cabot, Kate DiCamillo, Charles Dickens, William Faulkner, Sue Grafton, Carl Hiaasen, John Irving, Jonathan Kellerman, Dean Koontz, Lois Lowry, Mary Pope Osborne, Phillip Pullman, Anna Quindlen, Anne Rice, Louis Sachar, Jerry Spinelli, Danielle Steel and Jules Verne.

Best-selling titles from Blackstone Audio include: *The Civil War, Mere Christianity, The Aubrey/Maturin Series, Beyond Band of Brothers, Charlie Wilson's War* and *A Confederacy of Dunces*. Current releases include: *The Legend of the Wandering King*, a CBC/NSTA Outstanding International Book for 2006; *The Secret River*, the 2006 Commonwealth Writer's Prize winner and a shortlisted title for the Man Booker Prize; *The Sherlock Holmes Theatre*, Blackstone Audio's 2005 Audie Award winner for Best Drama; and *The Prestige*, winner of the World Fantasy Award.

Fifty new titles have also just been added from Listen and Live. Stay tuned for more publishers, more titles, more authors... more choices from NetLibrary eAudiobooks

Visit **www.netlibrary.com/ Librarian/Products/ AudiobookPurchase.aspx** to browse individual titles by subject.

Databases by the dozen

OCLC will add 12 new databases to its FirstSearch service later in 2007 when the databases migrate from RLG's Eureka service to FirstSearch–more than half of them will be FirstSearch exclusives (noted in boldface). These databases include:

- Anthropological Index
- **Anthropological Literature**
- **Anthropology Plus**
- Avery Index to Architectural Periodicals
- Bibliography of the History of Art
- **Chicano Database**
- FRANCIS: International Humanities and Social Sciences
- **Hand Press Book Database**
- **History of Science, Technology, and Medicine**
- **Index to 19th-Century American Art Periodicals**
- Russian Academy of Sciences Bibliographies
- **SCIPIO: Art and Rare Book Sales Catalogs**

First-time subscribers to any of these 12 databases will receive up to a 12-month subscription for the cost of six months of access. Orders must be placed by June 25, 2007. Contact **libraryservices@oclc.org** for more information. For more information about the databases

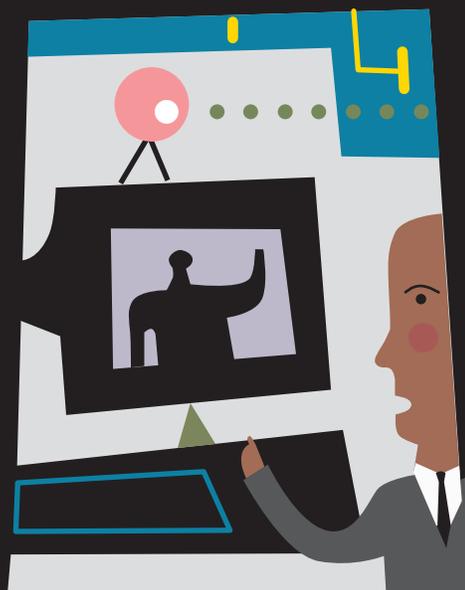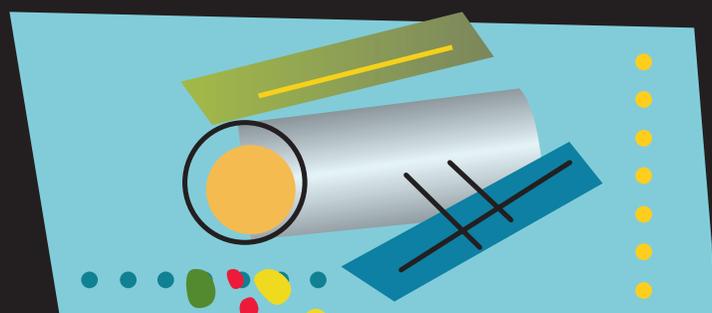Visit **www.oclc.org/services/reference/rlg/**.

Each second a library user searches WorldCat using FirstSearch
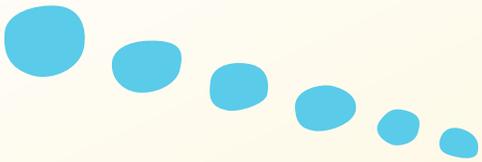
Search for Tomorrow

Preparing for a new age of information gathering

Search is poised at the cusp of several major leaps forward. What impact will they have on libraries? And how can libraries benefit?

BY TOM STOREY

Ten years ago, a small Mountain View, California company rolled out a plain search box and a new computer algorithm to help people find information. In the month of January 2007, more than 3.9 billion searches were performed on Google, which held a commanding 72 percent of the global search market, according to Nielsen//NetRatings and Enquisite Software.

In addition, more than 255 million people worldwide used a search engine–81 percent of the global Internet population–and the audience for search grew more than 10 percent, outpacing the growth of the Internet itself.

Clearly, it's fair to say that Google, along with a host of other Internet search engines, have fundamentally changed the relationship between humanity and knowledge, says John Battelle, entrepreneur, journalist, professor and author of *The Search: How Google and Its Rivals Rewrote the Rules of Business and Transformed Our Culture*. "Search is the new interface to knowledge," he says. "All of a sudden, the world is quite literally at your feet–or rather your fingertips."

So powerful is Google's impact that in 2006, Merriam-Webster's Collegiate Dictionary and the Oxford English Dictionary added the verb "google" to their hardbound editions. The company also was named one of the top global brands by *BusinessWeek* and brandchannel.com. To an army of information seekers, Google means search.

But the battle for search supremacy is hardly over. In fact, search is in its early days. And several experts believe that search stands today at the threshold of a new era. Opportunities exist for other companies and organizations, including libraries, to grab a portion of this rapidly growing phenomenon.

"I totally believe that the search landscape can change," says Roy Tennant, former User Services Architect, California Digital Library, University of California (Tennant recently accepted a position as Senior Programs Officer with the OCLC Programs and Research Division). "In fact, since change is the only constant, the question is how will it change? I think it will change by people waking up to the fact that the lowest common denominator searching is fine for some things but not for others."

Battelle says that when it comes to search, the most interesting stuff is yet to come. "As any engineer in the search field loves to tell you, search is at best 5 percent solved–we're not even into the double digits of its potential."

Don Dodge, Director of Business Development for Microsoft's Emerging Business Team and author of the blog *The Next Big Thing*, adds that it is important to remember that when Google was emerging, there were already huge dominant players in search. "It didn't look promising for a start-up in the search business. Personalized portals were the rage. AOL, Yahoo and MSN actually outsourced their search services. Search was simply one of many services, and not a good one at that because it didn't keep users on your site."

John Battelle

The battle for search supremacy is hardly over. In fact, search is in its early days.

Today's search explosion

Starting with Archie and Veronica in the early 1990s, search has been evolving from the domain of academics and technologists to mainstream culture. WWW Wander, WebCrawler, Lycos, Excite, AltaVista and Yahoo, which introduced new and exciting features and functionality, helped search gather momentum and move closer toward critical user mass.

But it wasn't until 1998 when Google came along and reinvented search that the world beat a path to Internet search engines, particularly Google. Google's breakthrough technology for page rank was far superior to keyword matching and index hierarchy used by early Internet search services, and it helped establish a new level of relevance to the Web as a viable part of the information landscape.

"Google did something that few companies, institutions or people have managed to do —provide a service that dramatically increases millions of people's ability to connect to useful information," Battelle says.

Tennant agrees. "They effectively solved a problem that was meaningful to people. They built a robust Web-crawling infrastructure and came up with a useful and unique algorithm for ranking search results that caused the most typically relevant items to sift to the top. Then they made it pay by figuring out the right advertising model for the Internet."

OCLC research confirms the dominance of search engines as the tool to discover resources.

In the OCLC report *Perceptions of Libraries and Information Resources*, respondents indicated that search engines deliver better quality and quantity of information than library-assisted searching–and at greater speed. Information consumers also trust the information they get from search engines as much as they trust information from libraries.

In addition, over half of respondents indicated that search engines fit their lifestyles compared to only 17 percent who said libraries are a perfect fit. More than 20 percent said libraries do not fit their lifestyles. Of the activities that respondents are doing less since they began using the Internet, watching television was number one and using the library was number two. Reading books was third.

That library resources and librarians add value to information search was not disputed by respondents but the data suggests that the relevancy and lifestyle fit of that value are in question.

Recent independent research verifies OCLC's findings. In its report *The User Revolution,* investment firm Piper Jaffray states that in less than 10 years, the Internet has grown from a tool that almost no one used, to one of the most widely used commerce, entertainment and information mediums, rivaling the use of television and perhaps exceeding the use of the library as an information source.

The firm estimates that worldwide search query volume will grow at an annual rate of 23 percent. "Search has changed from a tool for finding Web sites to what we consider the new navigational platform," the report says. "Search encompasses nearly everything that users want to do online. As such we believe search and search engines have become the new portals."
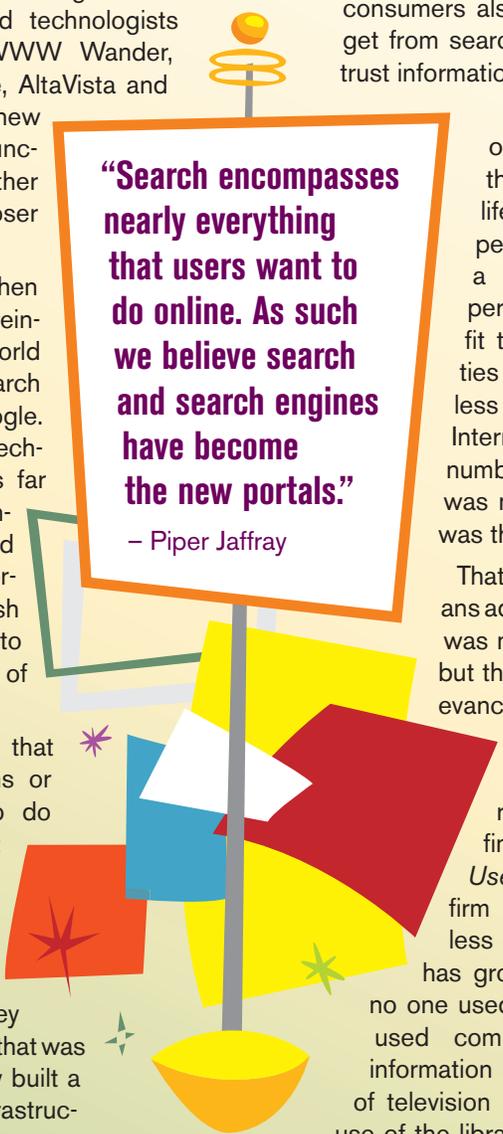
> **"Search encompasses nearly everything that users want to do online. As such we believe search and search engines have become the new portals."**
>
> – Piper Jaffray

> *"Search engines today tend to ignore metadata,"* says Tennant. *"But using metadata will sweeten the indexing and ranking."*
>
> – Roy Tennant

How big can search get?

Every day, search continues to evolve and grow in popularity. Today, searchers have access to an estimated 10 billion pages of online text, thanks to Google, Yahoo!, MSN and other search engines. And in the short term, search engines, particularly Google, are forecast to continue to dominate the search market.

A new frontier of search is on the horizon, however, ready to disrupt the current environment and present a wide range of new possibilities. The next generation of search will be smarter, more tailored to the individual, embrace video and music and be accessible from any device with a chip. Among the possibilities:

Smart search. Many people refer to this as natural language search or semantic search, where search engines scan indexes and use logic to look for meaning, not just matching keywords. Smart search is based on understanding user intent, and understanding the meaning of information available on various Web documents. In this way search engines could begin to answer questions in everyday language. Although he is skeptical about the practicality of the Semantic Web, Tennant sees the benefit of using rich metadata associated with scholarly works to sharpen search results.

"Search engines today tend to ignore metadata," says Tennant. "But using metadata will sweeten the indexing and ranking. This is becoming increasingly important as millions of scanned books become available. Without metadata, good luck with providing good search results."

Personalized search. What are your likes, dislikes? What are your preferences? If a search engine knew, search results could be highly customized and mirror your specific interests. Personalized search would deliver results tailored to who you are, what you are researching and your past search history, Battelle says. "The idea behind personal search is pretty simple: the more an engine knows about you, the more it can weed out irrelevant results," he says.

Tennant believes there is much experimentation to be done on useful ways of sifting through results. "If someone can create a search engine that provides more sophisticated ways of narrowing in on what you want from among thousands or millions of items, that will be a tool worth using."

Domain-specific search. Domain-specific search would focus on one area of knowledge, creating customized search experiences that, because of the domain's limited corpus and clear relationships between concepts, provide

Roy Tennant

extremely relevant results for searchers. Battelle calls this structured search—the ability to use search as an interface to knowledge in specific subject areas.

Tennant sees possibilities here as well. "Niche search engines will find audiences since they can be tuned to the particular needs of a user community."

Picture, audio and video search. As sound and still and moving images are increasingly digitized and broadband penetration grows, video, audio and image search are on the upswing and quickly gaining prominence with Internet users. Think of the phenomenal growth of iPods, podcasting, Flickr, YouTube, Blinkx, Metacafe.com and searchforvideo.com to name a few. Possible technological breakthroughs that could accelerate the trend are enhanced online playback and improved algorithms in speech recognition and visual analysis.

Mobile search. Mobile search is the convergence of search engines and mobile devices, such as cell phones, PDAs and other pocket-sized computing devices. With millions of cell phones and mobile devices worldwide, Dodge believes that mobile search is potentially the largest opportunity in the search landscape. The secret to success, he says, will be user interface design, which means both the ease of entering queries and the clear presentation of search results tailored for mobile devices.

"Mobile devices will become the communication and computing platform of choice within five years," he says. "It already is with teenagers."

Dodge also believes that cell phones will lead the way with voice-driven search. "Voice recognition is way better today than it was five years ago, and the phone has a perfect microphone already built in. Why not allow the user to enter commands and search

Don Dodge

queries via voice rather than text entry? Why not return the results via computer-generated voice rather than text? Why not allow the user to get the results both ways? This will be big!"

Social search. Social search determines the relevance of search results by considering the interactions or contributions of users. One of the fastest-growing social search techniques is tagging, a grassroots phenomenon whereby users label Web sites with descriptive tags, building a network of knowledge

dubbed folksonomy—a taxonomy of knowledge organized by ordinary folk. Battelle calls this "finding that which your community finds interesting."

Search everywhere

Beyond the frontiers of the next generation of search stands yet another world with unimagined network devices and objects. Within two decades, Battelle says, nearly everything of value will be tagged with tiny computing devices and incorporate network-aware search. RFID chips will enable computers to automatically recognize and identify everyday objects and trace, track, monitor and trigger events, and perform actions on those objects.

"Think about that— Google your dog, your kid, your luggage, your purse, your cell phone, your car," Battelle says. "The list quickly stretches toward the infinite. Anywhere there might be a chip, there can and most likely will be search."

The Internet of Things: Spimes everywhere

BRUCE STERLING

Beyond the frontiers of the next generation of search stands yet another world: the world itself. Imagine furniture, cars, cutlery and power tools communicating with each other in an organized network that far exceeds anything we know today.

That's what award-winning science fiction writer Bruce Sterling sees. He outlines his ideas in his book *Shaping Things*, an Internet-of-things pitch about the crumbling distinctions between what we currently know as the virtual and the actual.

Sterling sees a future network of objects, which he calls Spimes, embedded with rudi-

What does it mean for libraries?

The dominance of search engines for discovering resources is unlikely to diminish substantially in the future, but libraries can increase their participation in the online world and the search engine revolution.

OCLC is building a platform, WorldCat.org, to make it easy for libraries, collectively and individually, to deliver their services to the network and build a unified, high-value consumer presence on the Web. WorldCat.org integrates library content and services with Web search engines, Internet booksellers, online bibliographies and commercial publishers. It also provides a permanent Web page dedicated solely to searching the world's libraries and a downloadable search box that anyone can download to a blog or Web site.

With WorldCat.org, Web searchers discover library resources in their results lists and move from the Web to their local libraries. And OCLC members become more visible and their collections and eServices more accessible from sites where many people start their search for information.

Tennant notes that despite the fact people start at search engines, that does not mean they end there. "We find that although many of our students begin with Google, they realize the benefit of commercial databases and they will often end there. What libraries need to do is to create search services tailored to the particular needs of our clientele. If we understand their needs well enough, and do a good enough job in meeting those needs, they will come. All we need to do is effectively solve a problem that people care about."

Battelle says that, simply put, librarians need to become the experts in using the tools we all use to gather information. "Experts will always be in demand by the public. This means become experts in search."

The importance of understanding search and its cultural ramifications cannot be understated, he says. "Search is no longer a stand-alone application, a useful but impersonal tool for finding something on a new medium called the World Wide Web. Increasingly search is our mechanism for how we understand ourselves, our world and our place within it. It's how we navigate the one infinite resource that drives human culture: knowledge. Perfect search—every single possible bit of information at our fingertips, perfectly contextualized, perfectly personalized—may never be realized. But the journey to find out if it just might be is certainly going to be fun."

Libraries will be a part of the journey. ■

mentary communications—RFID chips—and tied to interconnected databases. The objects are precisely tracked in SPace and tIME, creating an entire world that is searchable. "You can think of Spimes as being auto-Googling objects," he says.

Here's how it would work, according to Sterling. A manufactured item starts with a digital blueprint, its specifications and tolerances available online even before it exists. Automated production and shipping records provide a detailed history of the materials and procedures that went into making it. Once it's off the production line, a global positioning system tracks it in space and time. Social

software lets people critique it, offer advice and suggest improvements. Ad-hoc networks like Bluetooth and Wi-Fi keep the item and the people who use it in constant communication. And if it was designed for disassembly and recycling, the object is tracked well beyond the end of its useful life.

In this brave new world of ubiquitous network connectivity, clothes embedded with chips communicate with sensor-equipped washing machines about colors and their suitable washing temperatures, and grocery bags remind their owners that they have forgotten something. ■

Destination: the world

A South African yachtsman overcomes incredible challenges—with the help of his local library

BY ALICE SNEARY

Neal Petersen is not your typical yachtsman. Born in South Africa under Apartheid, the future world traveler started his life under very different circumstances. You would never have guessed he would learn navigation and boat design in a library–and go on to become the first black man to race solo around the world.

You see, when Neal was born, he had a defective hip socket and couldn't walk. As a child, he underwent a number of surgeries to rebuild his hip.

As he recovered, his mother made sure Neal developed a deep love of reading, knowledge and information that would serve him well for his life's adventures. Her background as a teacher and his father's income as a diver meant they could not afford much beyond the basic necessities. Their financial hardship, combined with the political and social oppression of Apartheid, pushed Neal to discover the riches of the library.

He quickly read everything available in the "colored" library–libraries were segregated under Apartheid–and he had to go to the "white" library to continue to learn about sailing.

One brave white librarian, Letta Naudee of the Wynberg Public Library, risked everything to provide Neal with access to the knowledge he craved. She would sneak books out the back door for him, bravely defying the social and political laws at that time. At the library, he learned the principles of navigation, how to design and build a racing boat, and the technical aspects of sailing. He took that knowledge to the marina, convinced a few wealthy, white yachtsmen to take a chance and let him crew on their boats, and he was on his way to fulfilling his dream of sailing around the world in a race.

Neal experienced plenty of setbacks along the way before he reached his goal. But he was dedicated to the idea that no barriers would stand in the way, be they physical, cultural or economic. He even lived in Ireland for a time, when he'd managed to sail there but did not have the funds to either return home or continue with the race he had entered.

He first entered the Around Alone solo yacht race—then called the BOC Challenge—in 1994. Midway through the race, a storm damaged his mast beyond repair and he had to turn back.

Finally, in 1998, when he was 30 years old, Neal decided to go for his dreams again. At 27,000 miles, the Around Alone is the longest race for individuals of any sport; it has been called one of sailing's ultimate challenges. That year, the race had four legs: it started in Charleston, South Carolina and visited Cape Town, South Africa, stopped in Auckland, New Zealand, journeyed to Punta del Este in Uruguay and finally pulled back into Charleston harbor. When he finished the race 195 days after he started, Neal made history. He had become the first black man to race solo around the world.

The Discovery Channel, PBS and numerous other media outlets have told Neal's story. Now OCLC is telling it on behalf of libraries, with its latest advocacy ad in *Governing* magazine. We caught up with Neal and his wife, Darlene, in Puerto Rico while they tested new navigation equipment on their new boat. The following is an excerpt from that interview:

Q: Do you remember any particular materials in the library that made an impression on you?

A: I got very interested in the technical aspects of sailing, sextant navigation and how to design boats from the library. I read and reread Joshua Slocum's *Sailing Alone Around the World*, Francis Chichester's *Gypsy Moth Circles the World*, and a lot of technical books on design and boat-building. There was only one sailing magazine in South Africa at the time—but I could get many European sailing magazines from the library.

Q: From your success as an explorer and an entrepreneur, do you have any advice for libraries?

A: If librarians succeed, it will be felt for generations. They have such a powerful impact on society—and there's strong ripple effect for that, too. With all the technology and information options these days, libraries and librarians must have the courage to risk and focus on the end game. Educators are the cornerstone of free society. Sometimes I wonder if the libraries don't realize that they're an essential part of the educational ecosystem.

Q: How long did it take you to write your book, *Journey of a Hope Merchant*?

A: Five years. It was published in 2004 by the University of South Carolina Press. It was very rewarding to have won the National Outdoor Book Award for it in 2005. As a writer, I hope someone someday still says, "That's a good book."

Q: These days, you spend a lot of time doing motivational speaking. Tell me more about that.

A: Yes, I love being able to inspire people with my story, and help them try to find their own hooks into how they can overcome challenges. I have proven what can happen when you truly believe in the power of a dream.

I believe in the inverted pyramid. If I can make a positive impact on two people, then those two people can impact two more people, and it grows exponentially from there. My job as a speaker is to leave the audience better than they were before. ■

For more Q&A,

go to **www.oclc.org/nextspace/006/advocacy.htm**.
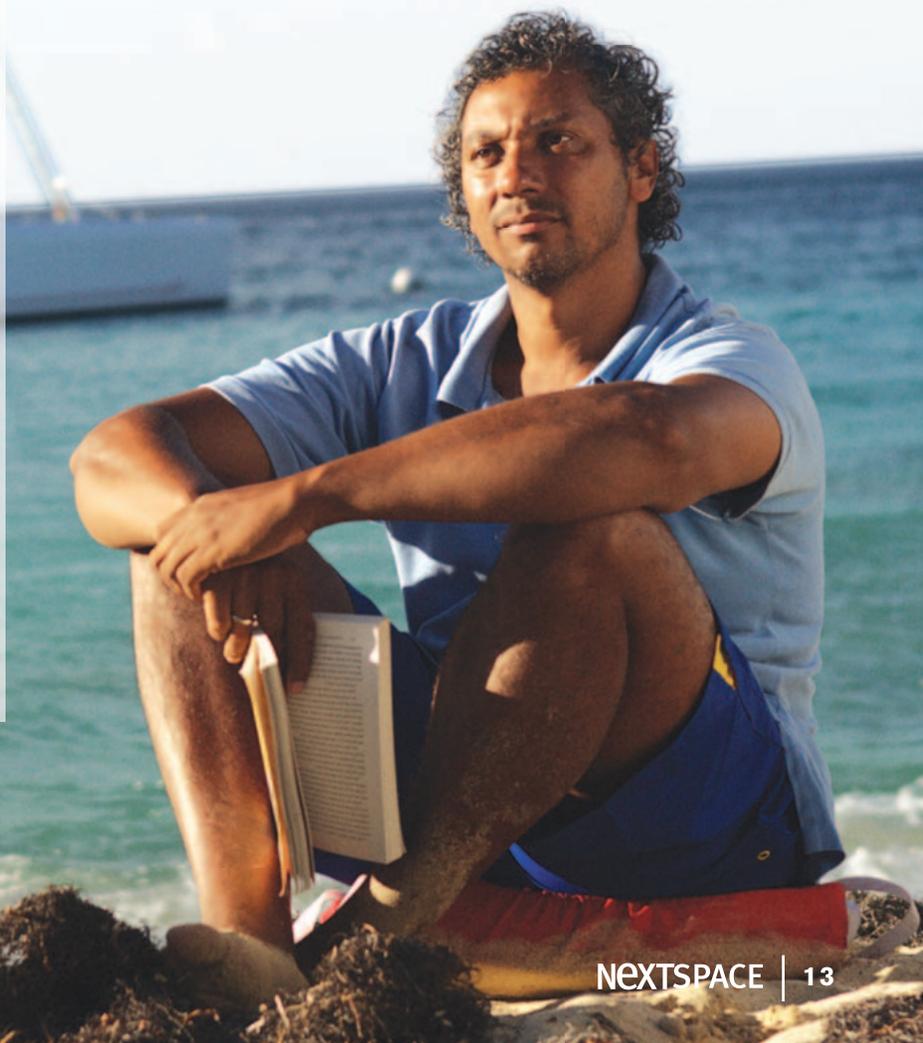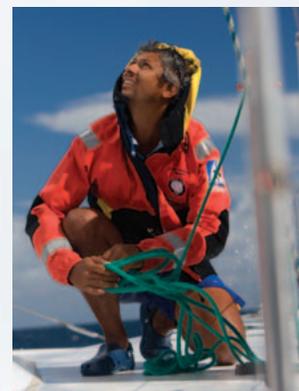
Directory of libraries

How to manage your institutional profile in the WorldCat Registry

BY CARRIE BENSELER

The WorldCat Registry is a free, comprehensive directory of all libraries and consortia and the services they provide. From a single, Web-accessible location, librarians can manage and share data that define their organizations, such as virtual and physical locations, consortial relationships, services offered, staff contacts and more.

The WorldCat Registry is a free, comprehensive directory of all libraries and consortia and the services they provide.

A WorldCat Registry profile allows any library institution or consortium—OCLC members and nonmembers alike—to maintain its institutional data in a single place and share it with other libraries, technology vendors and funding agencies. This removes the administrative burden of maintaining multiple profiles by various means (Web interfaces, paper forms, faxes and phone calls), and can automate routine tasks such as activating a new subscription service or renewing an existing one.

In addition, through WorldCat.org and other Web services, institutional profile information in the WorldCat Registry is syndicated across many popular Web sites where information seekers begin their search. As a result, more information seekers can discover and use the content and services of registered libraries.

Manage your profile

■ First, visit **www.worldcat.org/registry/institutions** and sign in by creating a new user account or use an existing account from one of the following OCLC services: OCLC Online Service Center (preferred), WorldCat.org or WebJunction. You will need to request authorization to manage a profile if your account has not been preauthorized.

■ The next step is to create, review or edit your institutional profile. For OCLC member institutions, profiles have already been created and prepopulated with pertinent information. Library staff at OCLC member institutions are encouraged to sign in to review and edit their profiles. Library consortia may create a consortial record and view information already provided by members in the "Members Report" section.

■ Finally, share your institutional profile with any organization that could benefit by sending them a special encoded Web link that provides access to a read-only version of your Registry profile, allowing others to proactively locate the most current information about your institution. ■

WorldCat Registry:
www.worldcat.org/registry/institutions

OCLC to pilot WorldCat Local

New service brings together local discovery, delivery within global network

BY BOB MURPHY

OCLC is piloting a new service that will allow libraries to combine the co-operative power of OCLC member libraries worldwide with the ability to customize WorldCat.org as a solution for local discovery and delivery services.

The WorldCat Local pilot builds on WorldCat.org, which allows Web access to the world's richest database for discovery of materials held in libraries. Through a locally branded interface, the service will provide libraries the ability to search the entire WorldCat database and present results beginning with items most accessible to the user. These might include collections from the home library, collections shared in a consortium and open access collections.

WorldCat Local will offer the same feature set as WorldCat.org, such as a single search box, relevancy ranking, result sets that bring multiple versions of a work together under one record, faceted browse, citation formatting, cover art and additional evaluative content. It will also include future enhancements to WorldCat.org, including more than 30 million article citations and social networking services.

The pilot will test interoperability with locally maintained services like circulation, resource sharing and resolution to full text to create a seamless experience for the user.

"WorldCat Local offers OCLC member institutions a way to leverage the ongoing investments that OCLC is making in WorldCat.org, within their local environment," says Chip Nilges, OCLC Vice President, Business Development. "As we add new features to WorldCat.org—and as OCLC member libraries add new content to WorldCat—those features and that content will also become available within WorldCat Local."

Libraries and groups participating in the WorldCat Local pilot include the University of Washington, the Peninsula Library System in California, and 11 Illinois libraries: CCS (Cooperative Computer Services) Consortium, Champaign Central High School, Glenside Public Library District, Hoopeston Public Library, Illinois State Library, Illinois State Museum, Lincoln Library, Mattoon Public Library, Northeastern Illinois University, University of Illinois at Urbana–Champaign and Williamsville Senior High School.

The University of Washington Libraries will be first to pilot WorldCat Local. Bill Jordan, Associate Dean of University Libraries, University of Washington, says the university has purchased or licensed a number of high-quality information resources for users but hidden them in multiple silos with little or no integration.

"With WorldCat Local, we bring together our fulfillment options—electronic, locally held, consortial and remote—into one interface that leverages the 'delivery smarts' built into our local and consortial systems," says Jordan. "With the addition of article metadata, we begin to see the breakdown of our discovery silos by the aggregation of indexing for book and article content."

"And WorldCat Local completes the discovery-to-delivery chain no matter where the user starts out. It's here, in syndication, that OCLC is uniquely positioned to work with Microsoft, Yahoo! and Google on behalf of libraries in a way that nobody else really can." ■

Increasing libraries' relevance on the Web

OCLC network interface services can connect users searching on the Web—where most people start their search—to their libraries and, using a broad range of intelligence about objects, identifiers, people, places and institutions, provide unprecedented context around items libraries hold

BY TOM STOREY

It may not be an overstatement to say that the Web has become the most significant engine driving change in the technology landscape since the advent of the computer. Indeed, the information industry today is in a period of disruption that may be as significant as the introduction of the Web itself, says Mike Teets, Vice President, Global Engineering.

The Web is the new computing platform and its architecture demands a new approach to and a new strategy for product development, Teets says.

"The computing environment has moved away from large monolithic services where users start and end their work in a single application. In that environment, the design of the application was isolated and all attention could focus on the single application. Now OCLC services must be used inside workflows that involve many applications."

Thriving in this new network environment requires developing network interface services, commonly referred to as Web services or service-oriented architecture. These services are software components that can be exposed on the Web using industry-wide protocols, making it possible to quickly link together computer systems across organizations worldwide. A Web service's functionality and data are available through a machine interface and can be reused within other applications.

From a technology perspective, Web services provide: more flexibility, better integration of existing applications, reduced data replication and faster application development. They also allow seamless presentation and consumption of services across the network and provide the capacity for:

- data and service sharing across network nodes: local, regional and global;
- functionality to be placed at the most appropriate point in the network; and
- all nodes to add value to, and gain value from, the network.

OCLC Web services are exposed independent of OCLC applications as well as assembled into OCLC composite hosted services. They provide an open infrastructure for building a Web-scale library service in a view that's appropriate for each library. They will allow libraries to present themselves in a local, regional or global view on the Web and bring searchers to their content and services. The services allow the automatic insertion of relevant context around the objects searchers find.

"Right now, library databases, collections and services are not in mainstream Web traffic flows—the search engines and Internet services where the majority of people start their search," says Teets. "Library databases are flat. They require an expert to navigate the relationships between sources, content and structured metadata."

Among the network services that OCLC is developing:

- **Connexion.** Many of the underlying components of Connexion, OCLC's flagship cataloging service, are being developed as Web services, including validation and terminologies metadata creation, too.

- **WorldCat Resource Sharing.** OCLC's new WorldCat Resource Sharing exposes interlibrary loan operations–create, search, retrieve and update requests–in local ILL services. Libraries and alternative service providers that have implemented this Web service are: MINITEX, Atlas Systems (ILLiad), ILL ASAP, Perkins and Associates (CLIO), the University of Pittsburgh and the British Library Document Supply Centre. Libraries that use these applications can use OCLC ILL at their point of need in their environment.

- **WorldCat.org.** This program is comprised of a suite of services that syndicate content and services, provide various integration points and operate inside many different environments.

- **WorldCat toolbars.** These software components work seamlessly with browsers and search engines to make library searching an "always-on" option by mixing Web search with Find in a Library–if it's in a library nearby, toolbars let searchers find it in WorldCat no matter where they are on the Web.

- **OpenURL Resolver Registry.** This Web service brings together functionality from local library systems and OCLC to route searchers to their libraries' electronic full-text collections. The registry contains location and configuration information about libraries'

> **"To be successful in this new network environment, OCLC and library services need to interoperate with services from alternative service providers, including those outside of the typical library service industry.**
>
> –Mike Teets

OpenURL resolvers, which link metadata and identifiers to a specific copy of an object. A gateway matches registry information with the user and passes through requests to the appropriate OpenURL resolver. Together, the registry and gateway make OCLC services interoperable with whatever OpenURL resolver software libraries use and allow libraries to express preferences and conditions that govern the linking and display of their online resources. And the library will need to enter and maintain this information in only one place.

- **WorldCat Registry.** This is a comprehensive directory for libraries and consortia, and the services they provide. It helps libraries and consortia manage and share data that define their organizations through a single, authoritative Web platform.

- **xISBN service.** OCLC Research created this Web service, which supplies International Standard Book Numbers (ISBNs) associated with individual works in WorldCat, for anyone interested in linking an application to it. Recently, this service was turned into a robust Web-scale application that can be integrated into mainstream applications in the library environment.

An increased focus on Web services is essential for libraries and OCLC to remain relevant to users, Teets says. "To be successful in this new network environment, OCLC and library services need to interoperate with services from alternative service providers, including those outside of the typical library service industry. We may not own the interface or the user relationship in every case so we must architect for success." ∎

WorldCat Identities
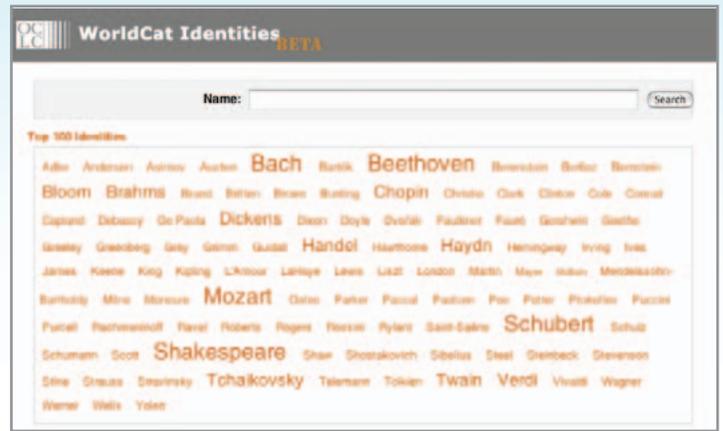
Another view of the catalog

**BY THOMAS B. HICKEY, PH.D.,
CHIEF SCIENTIST, OCLC RESEARCH**

The idea of WorldCat Identities is simple: create a summary page for every name in WorldCat. Since there are some 85 million records in WorldCat and nearly 20 million names mentioned somewhere, this is a large-scale data mining effort that would have been difficult even a few years ago. We are working with both personal and corporate names, so you can see a page for the Beatles, as well as the individual page for John, Paul, George and Ringo.

Just working within WorldCat there is a lot of information that can be associated with people. We show lists of the most common works written by the person and those written about them. Since we know when these works were published we produce a graphical time line showing their publication history. If we can associate roles (e.g., composer or translator) with the person, we display them along with the genre they work in (e.g., Psychological fiction) and subject headings (Novelists, American—19th century).

We also list all of the languages in which the person has published, as well as related names found in their records. Each language is linked to an Open WorldCat search of the person and that language. Related names of-
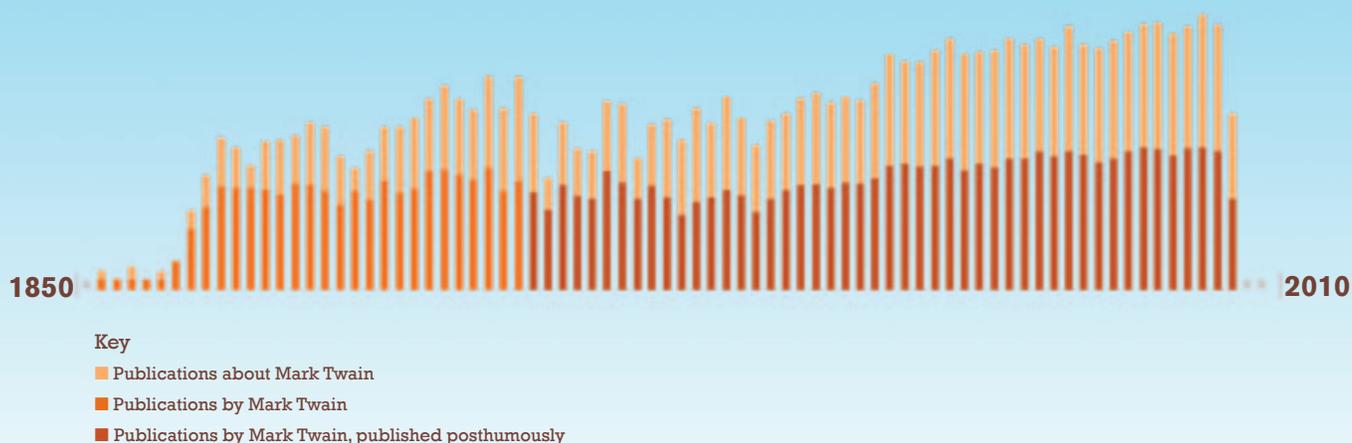

ten show the role that person played in relation to the Identity being described (e.g., children's authors will often have illustrators associated with them). These names are then linked to their own Identity pages, so it is easy to see them in their own right.

We made extensive use of earlier efforts by OCLC, including FictionFinder, RedLightGreen (done by RLG before they joined OCLC), Audience Level and of course WorldCat.org. The focus of WorldCat Identities is very similar to that of RedLightGreen, aimed at an audience that could be characterized as the 'literate undergraduate,' although we hope it will be useful to many levels of expertise. We have also been able to incorporate preliminary name matches of the Virtual International Authority File project, which helps match many German authors to the English equivalent.

WorldCat Identities is one of the first times we have tried to do FRBR (Functional Requirements for Bibliographic

Publication Timeline – Mark Twain 1835–1910

1850　　　　　　　　　　　　　　　　　　　　　　　　　　**2010**

Key
- Publications about Mark Twain
- Publications by Mark Twain
- Publications by Mark Twain, published posthumously

Record) grouping at the expression level. This means that, for example, if you are looking at John Tenniel's page, the citation for *Alice's Adventures in Wonderland* shows only the 546 editions in WorldCat that he illustrated, not the 2,535 credited to Lewis Carroll. While you are on Lewis Carroll's page you can see alternative names we have pulled from the Library of Congress authority file, along with a Cyrillic form of his name found in a bibliographic record, and a link to Charles Dodgson's page for publications attributed to his other 'persona.' For many of the more famous people we also have links into Wikipedia.

The introductory page shows a cloud with the 100 most common names in WorldCat. One of the most striking aspects of this cloud is the large number of musicians (about a third). This highlights the

We show lists of the most common works written by the person and those written about them. Since we know when these works were published we produce a graphical timeline showing their publication history.

fact that WorldCat is about what libraries hold, not necessarily about books. In fact, it is obvious from the cloud that much of the material held by libraries is music. We are experimenting with some other clouds that display photographers from some well-cataloged photography collections.

We know we still have a lot of work to do. The pages are automatically generated and sometimes this is more obvious than one would wish. There is also quite a bit of library jargon that could probably be made more understandable. To help us understand these and other issues, RLG Programs is conducting a beta

test of WorldCat Identities. More than 80 librarians at 22 libraries have volunteered to test it themselves and with their users. This is one of the first joint projects between RLG Programs and OCLC Research. It shows how the strengths of each group complement each other to produce better results than either group could achieve alone. ■
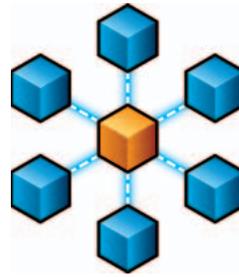
WorldCat Identities
orlabs.oclc.org/Identities

2,401

Web sites that have signed up to download the WorldCat.org search box.

(worldcat.org/wcpa/servlet/org.oclc.lac.affiliate.GetSearchBox)

6

Large LCD screens that present a visualization of checkout data, in real-time, at the Seattle Public Library.

(www.mat.ucsb.edu/~g.legrady/glWeb/Projects/spl/spl.html)

215,000,000

Referrals from search engines and partner sites to WorldCat Find in a Library records since 2005.

(www.oclc.org/worldcat/web/default.htm)

256,000,000

People who visited a search engine in December 2006.

(searchenginewatch.com/showPage.html?page=3625072)

27,000

Registered users worldwide who are sharing and using online resources at WebJunction.org, an online community for library staff.

(www.webjunction.org)

34

Percent of Internet users who have logged onto the Internet using a wireless connection.

(www.pewinternet.org/pdfs/PIP_Wireless.Use.pdf)

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St. John's, Newfoundland and Labrador, Canada

Special Libraries Association
Annual Conference
June 3–6, 2007
Denver, Colorado

Association of Canadian Archivists
June 20–23, 2007
Kingston, Ontario

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Annual Conference
June 21–27, 2007
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