



# Smart Libraries™

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## Koha in Delhi, India

As open source library automation products find their way into more diverse libraries, the news that the Delhi Public Library in India has adopted Koha marks its entry into the ranks of larger municipal libraries. Yet, upon closer inspection we will see that this initial deployment of Koha for the Delhi Public Library represents a fairly modest endeavor relative to the demands of a large municipal library in the United States. Delhi Public Library, like many libraries serving cities in the developing world, remains in a fairly early phase of automation. Our examination of their adoption of Koha provides an excellent snapshot of library automation in the developing world.

### About the Delhi Public Library

Delhi public library faces challenges typical of libraries serving large cities in the developing world. With limited resources, the library provides services to one of the world's largest cities. Public libraries are seen as one of the developing world's most important resources for increasing literacy and competing in an increasingly information oriented world.

The Delhi Public Library was founded in 1951 by the Indian Government. From its modest beginnings as a small library in Old Delhi, it has expanded into facilities throughout the city. The library currently consists of a central library, a zonal library, three branch libraries, 26 sub-branch libraries and 6 community libraries. The system includes 20 Resettlement Colonies Libraries that serve these areas of former slum inhabitants, and a Braille Library. In addition the library provides 47 service points with its mobile services and has 27 deposit stations. Deposit stations are small libraries run by local societies or associations under the supervision of the Delhi Public Library, which provides a training program for their workers.

The current funding of the library supports a total of 451 personnel, distributed between 334 professional and 117 non-professional positions. Currently about 173 positions remain vacant.

The Delhi Public Library describes itself as one of the busiest libraries in Southeast Asia. It serves a city with a population of 13.8 million inhabitants, though only 45,000 are registered members of the library. The library was founded on the principle that membership would be offered free of charge. Members pay a refundable security deposit of 50 Rupees, about 1 U.S. dollar, unless their membership is verified by a suitable guarantor such as public official or professional. Last year, the library reported annual circulation of 974,110 annual transactions.

The collections of the Delhi Public Library total 1,487,038. In 2007-08 57,446 books were added. The library purchases and processes books centrally and distributes materials to the other facilities throughout the system. The main languages of materials acquired include English, Hindi, Urdu, and Punjabi.

In 1981 DPL was named by the National Library as a recipient of the Delivery of Books and Newspapers Act. This law mandates that the library is entitled to receive a copy of each item published in India without cost and in all languages. By 2008 DPL had received over 270,290 books through this program.

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## Automation efforts

Like many libraries in the developing world, much of the work in the Delhi Public Library is carried out through manual processes. Some progress has been made in bringing computers into the library, but not at the level where all items in the collection are represented in a single database and where each of the libraries use automated circulation software.

The library's automation efforts began in 1995 with the installation of its first computers. In 1997 the library began using the CDS/ISIS system to create a database of the books received under the Delivery of Books and Newspapers Act. Delhi Public Library recently began offering Internet access, deploying ten computers in three of its libraries.

## Transition to Koha

In tune with the worldwide trend toward open source software, the Delhi Public Library embarked on a project to shift away from the CDS/ISIS software provided by UNESCO to Koha.

In 2008, The Delhi Public Library began its project to implement Koha. On October 2, 2008 the library made its new catalog available, based on Koha Version

3. The library was the first in India to put Koha Version 3 into production. This version relies on the Zebra search engine from Index Data.

Although the implementation of Koha marks a significant milestone in the automation strategy of the Delhi Public Library, it should be seen in the context of a library in its early phases of automation, which cannot be compared to municipal libraries that are already fully automated migrating to a new system.

Out of the 1.5 million items in the library's collections, only a relatively small portion are currently managed under either Koha or CDS/ISIS. Library officials report that about 20,000 titles have been loaded into Koha so far, with up to 55 copies each. The library is converting the CDS/ISIS system that manages the 70,000 books received through the D.B. Act into Koha. In the initial deployment, the Koha software will be implemented in three of the branches. Koha is now being used to process newly acquired books.

Building on these somewhat modest beginnings, the Delhi Public Library is working toward a more comprehensive implementation and is working

on making all its collections available through Koha. One of the projects currently underway involves using Koha for the circulation of its collections of DVDs in its zonal libraries.

The Delhi Public Library was able to begin its Koha project at a relatively modest cost. Most of the technical work for the project was accomplished by the library's own staff. The library spent the equivalent of about \$7,500 for the Dell PowerEdge server used and about \$350 for services related to the installation of the server.

The library made use of services from IndServe InfoTech Pvt. Ltd. for the installation of the server for Koha. According to library officials, this company had limited involvement in the implementation, configuration, and operation of the Koha software and did not have previous experience with library automation. The company expects to gain experience with Koha through its involvement in this project.

—Marshall Breeding

## ISIS Moves into the Open Source Arena

When it comes to library automation in the developing world, there is nothing more important right now than CDS/ISIS. CDS/ISIS is a database package specifically designed to be accessible within the resources of library and information centers in countries that do not have a high level of financial or technical resources. CDS/ISIS has enormous worldwide impact, with hundreds of thousands of individuals, libraries and other organizations making use of the software. This family of software products has gone through multiple generations of technology, each in step with the broader IT trends, including its most recent transition to the free and open source software arena.

CDS/ISIS is the most commonly used software package in libraries within the developing world, though it also finds use by many libraries throughout Europe. The software was

developed by UNESCO, which makes it available to organizations free of charge. The ISIS software is designed as a generic information storage and retrieval system for textual information capable of working with multiple languages. The CDS/ISIS program involves more than developing software. It follows principles that help organizations within UNESCO member nations take advantage of the software through documentation and training provided in multiple languages. UNESCO works with many different organizations to develop, distribute, and support the software.

The ISIS software has a long history of development and adoption by libraries throughout the world. The software traces its roots to the Centralized Documentation System originally developed for IBM mainframe computers in the 1960's as a

text-oriented database. In 1975, the first version of CDS/ISIS emerged. It ran on the VAX/VMS that merged the Centralized Documentation System with the Integrated Set of Information Services.

In 1985, UNESCO created Micro-ISIS, porting the database to personal computers under the DOS operating system. Unix versions soon followed, with networked-multi-user capabilities added. The DOS version of CDS/ISIS continues to be widely used because of its ability to run on older computers in organizations that may not have up-to-date equipment. Beginning about 1985, Bimere (Latin American and Caribbean Center on Health Sciences Information) got involved with ISIS, creating CISIS which provides an extensive set of command-line tools created in and for the C programming language.

The ISIS software continued to evolve in the mid 1990's with the creation of WinISIS, providing access to ISIS databases through a graphical interface. At around the same time, BIREME produced *wwwis*, a Web server that provides access to ISIS databases.

UNESCO provides documentation and training materials in many different languages. The ISIS-Pascal is a programming language for creating customized applications based on the ISIS database. For more than two decades, the evolution of the ISIS software has provided a consistent information technology platform, which is especially helpful for libraries in the developing world not as able to keep pace with rapidly evolving technologies.

CDS/ISIS has become widely used since it is well suited to the practical limitations present in many parts of the world:

- The software is free. Libraries can download the software from the UNESCO web site or one of its international distributors without cost.
- It is available in many languages. The Arabic version can't be down-

loaded, but is distributed without cost.

- It operates with minimal hardware requirements.
- Documentation for the software is available in many languages.
- Training and support is available through UNESCO and other organizations.

Although UNESCO offers all its products based on CDS/ISIS to libraries without cost, until recently it has not been distributed under any of the open source licenses. Libraries can download only the executable versions of the software, not the original source code. This means that they cannot make changes to the software, but must use it as distributed. The ISIS-Pascal programming language allows libraries to make customized applications using CDS/ISIS databases.

A key issue for libraries in the developing world is the choice between the practical benefits of CDS/ISIS and the trend toward open source software. The Delhi Public Library chose to shift away from CDS/ISIS to Koha, a perfect example of how this controversy is playing out. The Delhi Public Library is interested in implementing Koha because of its interest in open source software at the same time that the ISIS community is rapidly moving toward open source.

While the adoption of Koha and other open source library automation products continues to grow in developing nations, it is still impossible to determine how this trend will play out overall in comparison to the ongoing use of CDS/ISIS. UNESCO continues to see thirty to fifty downloads of CDS/ISIS per day, not counting the requests for the Arabic version. This statistic provides some evidence that CDS/ISIS continues to grow as the dominant technology product for these kinds of organizations.

Despite the availability of open source library automation systems, the

CDS/ISIS family of tools is still an excellent product for libraries in the developing world. The current slate of open source ILS products require a number of prerequisite components that make them less accessible to organizations that may not have technically proficient staff members or even access to the Internet. The need to install Apache, MySQL, Perl, and other components makes it difficult to install and maintain. While programs like Koha have modest hardware requirements by our standards, they still require more powerful and up-to-date computers than CDS/ISIS. They lack compatibility with the databases and expertise already established in hundreds of thousands of ISIS implementations.

UNESCO continues the development of software to modernize CDS/ISIS in ways that take advantage of the broad trends in information technology, while still keeping it within the means of its target user base. Three projects are currently underway to improve and modernize the technology of CDS/ISIS while maintain the continuity of its underlying data structures and leveraging the knowledge that organizations have built upon the existing versions.

BIREME has been one of the key collaborators in the development of the new products in the ISIS family.

The Third World Congress on ISIS met in Rio de Janeiro on September 15 – 16 as a key forum to establish the future directions of the ISIS software. The general objective of the conference was to “Promote the exchange of ideas, experiences, solutions, new developments, challenges, progress and perspectives on the development and strengthening of the ISIS platform and its user- and developers communities, more specifically with focus on library and documentation centre services.”

- Java ISIS, or J-ISIS, will bring the functionality of the current system into the open source realm

through a version built within the Java programming environment. This new version will continue to read database files created with other versions and supports UNICODE. J-ISIS will run on all the computing platforms that support Java, including Microsoft Windows, Apple Macintosh, and all versions of Linux and the Unix variants.

- ISIS Network Based Platform (NBP) aims to rework the internal architecture of ISIS toward more current information technology components and methodologies, and will move CDS/ISIS into a Python-based environment. Python is an open source programming environment that has gained great popularity for Web-based applications. This environment uses ZoDB (Zope Object Database) as its storage engine.

- ABCD (Automatización de Bibliotecas y Centros de Documentación) provides a complete Web-based library automation environment on top of the ISIS database. Whereas CDS/ISIS is a general purpose toolkit that can be used in a variety of ways, ABCD stands as a complete integrated library system.

These three development projects will converge into a new version of ISIS more consistent with current trends toward open source software and Web-based technologies. The Third World Congress on ISIS firmly establishes the commitment of UNESCO, BIREME and other organizations to continue the development of a new generation of ISIS products fully in tune with the worldwide movement toward free and open source software.

—Marshall Breeding

#### More Info. @

ISIS Network Based Platform Press Release:  
<http://regional.bvsalud.org:8070/reddes/projetos/isis-nbp-1>

Rio Declaration on the Future of the ISIS Software:  
[http://www.eventos.bvsalud.org/agendas/isis3/public/documents/Rio\\_Declaration\\_ISIS\\_Software-132800.pdf](http://www.eventos.bvsalud.org/agendas/isis3/public/documents/Rio_Declaration_ISIS_Software-132800.pdf)

## Go Directly to GoWeb3D

A common complaint about many virtual world environments is that many users do not have the necessary technology to use them effectively. Most people with networked computers don't have the power or bandwidth to experience virtual worlds. You often need a high-powered computer to have an elegant and meaningful virtual world experience, and you will usually need to download and install a large piece of software before entering any of the hundreds of virtual worlds out there. Software downloads involve risks and headaches for individuals and organizations. As I write this, for instance, I am dealing with some wonkiness caused by the most recent required version upgrade to the virtual world called Second Life.

What if you could experience three-dimensional virtual environments right in a standard web browser without having to download and install special software? A small start-up company called GoWeb3D is trying to figure out how users will be able to do just that. In October I participated in a demonstration of the beta version of their system. Representatives of GoWeb3D report that their system is currently optimized for

Microsoft's Internet Explorer, but it will work reasonably well in other standard web browser software, like Firefox. I experienced GoWeb3D in Google's new Chrome browser and it seemed to work fine.

GoWeb3D is powered by 3D Explorer, which uses Java to render the browser-based virtual scenes. As with Google Lively, each scene appears to be self-contained. One limitation of the current beta version is that each scene can hold only 20 participants. Representatives from GoWeb3D think this number will increase soon, and they note that it also is possible to create two or more parallel versions of a scene to accommodate larger groups.

When you are in one of these 3D web spaces, you can talk using voice-over-IP, text chat, explore the scene, and can even click on links that will take you back to humdrum 2D web-pages.

Another knock against many "traditional" virtual world environments is the idea of avatars. A librarian once commented to me that the avatar experience appeals to the same



instinct that earlier in our lives caused us to play and dress up dolls. With GoWeb3D you can choose to view the scene with or without creating an avatar and tricking it out with bling.

GoWeb3D is still working on its business model, and they would like to receive input from librarians and educators. They are currently focused on three virtual world needs or opportunities: workplaces, retail outlets, and the primary and secondary education market. For the education piece, GoWeb3D may try selling virtual world “serials” to schools, libraries, and related organizations. In other words, GoWeb3D will create a series of thematically-based virtual environments with educational resources and programs embedded in these scenes. Schools and libraries will subscribe to the service to allow their students, faculty, and staff to gain access to this series of scenes.

These virtual scenes may exist as public scenes which anyone could visit and use to interact with others, or as “private” scenes accessible only by a class or school district. Representatives from GoWeb3D also indicate that the scenes may be accessible solely from a school district’s intranet, which may dovetail well with the existing network capacity and policies of many school districts.

—Tom Peters

#### More Info. @:

GoWeb3D Home Page:  
<http://new.goweb3d.com/>

## Project Tests ProQuest Databases in Virtual Worlds

Virtual worlds like Second Life and Active Worlds show a lot of promise for libraries and library users that want or need immersive, interactive, three-dimensional information experiences and services. Although virtual environments require energy, server farms, and high-powered computers to work, these experiences are generally considered to be more green (that is, more environmentally friendly and responsible) than real-world libraries and library services, especially if the user needs to burn fossil fuels or otherwise expend considerable energy to travel to a bricks-and-mortar library.

Nevertheless, the Web is much more mature than virtual worlds print-based repositories are much more mature and richer in content than almost any digital information. Still, now that most information is born digital, the digital infomass may soon become larger than the printed infomass. The Web’s infomass is in second place and gaining fast, and the amount of information residing in virtual worlds is a distant third.

The current Web is a broader and deeper information resource than all the virtual worlds combined. As a result,

library users, students, and instructors who are teaching and learning in virtual world environments often want to access web-based resources, including content databases provided by library vendors. These virtual world devotees bemoan the difficulties they experience when trying to access web-based information resources from within a virtual world. Simply displaying a webpage in-world or, worse, being ported out of the virtual world to a traditional web resource, does not really capitalize on the immersive and interactive affordances of virtual world information experiences.

This fall a group of educators, librarians, and representatives from ProQuest began a project to make the process of accessing web-based information databases much easier and more integral to the overall virtual world experience. Bryan Carter (Bryan Mnemonic in Second Life), an Associate Professor of English at the University of Central Missouri, got the ball rolling on this project. While details about which databases participants will use are still being worked out, it appears that at least a series of digitized newspapers will be made available to stu-

dents and visitors using the Virtual Harlem island in Second Life.

The project team exploring this opportunity will look at how to present database search results in-world, how avatars use and interact with the results, potential authentication methods and how database vendors may want to price access to their databases for users in virtual worlds, among other things. Only time will tell us if the answers to all these questions are no different than web-based access, or completely different altogether.

—Tom Peters

## A Preview of Things to Come

In late September, Google announced that another major enhancement to the usability, usefulness, and “embeddability” of at least a portion of the full text from Google’s massive and ongoing Book Search project. Google released an open source API that allows anyone to embed a portion of the full text of a Google Book Search scanned book into just about anything – a publisher catalog, an online book seller’s website, a blog post, or even a library catalog. Because books seem to be on the happy path to becoming as embeddable as YouTube videos, one blogging wag dubbed this development YouBook. According to Alex Diaz, the product manager of Google Book Search, “By providing tools that help sites connect readers with books in new and interesting ways, we hope publishers and authors will find even wider audiences for their works.”

This is a development that gives flight to the imagination. As Diaz notes, this API takes Google Book Search one step closer to the type of browsability that has existed in brick-and-mortar bookstores for years. Now you can pull that digitized book off the cele-

tial bookshelf and browse through it. In the subtle but earnest battle between browsing and searching web-based content, over the long haul you may want to bet on browsing. In defense of searching, however, we should note that the Google Book Preview interface—very minimal, of course—does include a search-within-the-book-you-are-browsing-through search box. You also can flip to the table of contents at any point during your intratextual browsing, increase or decrease the size of the page images, and flip forward or backward amongst the pages available to you.

Not all of a book is browsable through Preview. According to Google, a maximum of 20 percent of a digitized book may be previewed via this API. In the example featured prominently in the official blog post announcing this improvement, about half of a book about the history of Mountain View, California, appeared to be browsable.

One also wonders if a development like this may incline the online population to become a little more bookish, in the sense that they would be more aware of published books on topics of inter-

est to them, frequent libraries and bookstores more often, and generally be aware that considered, lengthy examinations of topics do exist.

The imagination of librarians will race to the future of the library catalog, if intratextual browsing becomes ubiquitous. Does Preview pound another nail in the coffin of the library catalog, or does it pry a few of the existing nails out? Some library catalogs already have begun incorporating the Preview API. The example for WorldCat cited in the official blog post took me to an edition of Immanuel Kant’s *Critique of Judgment*, which proves, if nothing else, that the folks at Google have a sense of humor. Some books, such as the works of Kant, do not lend themselves to fruitful browsing.

—Tom Peters

### More Info. @:

Blog Post from Google About Preview:

<http://booksearch.blogspot.com/2008/09/book-search-everywhere-with-new.html>

## It’s a Twing Thing

Books just used to be books. It went without saying that they were printed on paper. The main distinction was between paperback and hardcover editions. Now we have e-books, downloadable digital audio books, print-on-demand books and more formats than we can count.

This also seems to be the case with our sense of community. It used to be that most people assumed that a community was some geographically based group of people, like a town or a neighborhood. Now we have online communities, from old-school bulletin boards to social networks. Some online communities are communities of interest or intent, while others are just loose affiliations of friends and wannabe friends.

Communities can be great sources of information. Whether it is a few people chatting over a backyard fence, in the lobby of a post office or around the water cooler, community-based information exchange has developed an iconic tradition.

Finding good community-based information amid the thousands of online communities can be a challenge. A new search engine named Twing wants to help. It focuses solely on online communities and the communication and information exchanges that occur in them.

Twing sports all the social networking and ease-and-depth-of-use features we have come to expect from social networking sites: RSS feeds, replies, ratings, saved searches,

preferences, the ability to create an account, and many other features. The service is free to users, as it generates revenue through sponsored links, which appear in an easy-to-distinguish shaded column on the right.

When diving into an online community's conversation via Twing, context and lingo can be stumbling blocks. Some online communities seem to develop their own shorthand or dialect, and all the posts are made in context, so viewing them out of context may lead to misinterpretation.

Twing also provides some high-level analyses of the online communities it monitors and indexes. You can find, for instance, the video that has the most links from forum posts (a YouTube clip of Megan McCain, when I checked), hot topics, in terms of forum posts that generated the most replies and in terms of forum posts that received the most clicks ("early pregnancy signs" beat out "slow cooker recipes," but our population is aging, so that eventually will flip), the most active online communities, the fastest growing communities, and many others.

It is still unclear whether or not focused search engines like Twing can compete with the big search engines. In American society there seems to be a constant ebb and flow between the desire to get very specialized and specific service and the desire to experience one-stop shopping. There have been periods in our history—distant and recent—where the trend was to purchase your bread at a bakery, your meat at a butcher, and your coffee at a gourmet coffee store. There also have been periods in our history—distant and recent, too—when the collective impulse was to consolidate all shopping under one roof, or in one catalog, or at one website. Sears, Wal-Mart, and Amazon come to mind. Perhaps a similar ebb and flow of searcher preferences will develop in the search engine market, too, and Twing will be sustainable.

—Tom Peters

**More Info. @**

<http://www.twing.com>

## Mergers, If Not Acquisitions

If an information system or service is to be available to everyone worldwide, usage will indeed go global. Although many libraries have very tightly defined core service populations, often it is the things that they make available to the wider world that makes or breaks their reputation.

In this emerging global information services market, one has to wonder if there are too many libraries and library consortia. I have often suspected that we are on the verge of an era of mergers, if not acquisitions, involving libraries, library consortia, library systems, and library associations.

In this context, it is interesting to note that in October two library consortia in Missouri, MOBIUS and MLNC, established a joint task force to explore the possibility of merging the two organizations. Both consortia want to survive and thrive, so they are investigating whether a merger is the best way to achieve the "mutual goal of expanded collaborative services."

MOBIUS, headquartered at the University of Missouri in Columbia, is an academic library consortium with 60 member institutions and 2 cooperating partners. According to MLNC's homepage, "The mission of the Missouri Library Network Corporation (MLNC) is to organize and deliver to its member libraries and other contracting entities OCLC-based information services, related electronic services and content, and training in the management and use of information." MLNC is headquartered in St. Louis. So, this would be a merger of a mono-type

consortium with one of the OCLC regional service centers, which seem to be in the midst of some sort of identity crisis.

Of course, mergers are not unheard of in library consortia, although they seem to be less common among library associations and bona fide libraries. Several years ago, for example, a consortium in Oregon and another in Washington agreed to merge. The MOBIUS/MLNC merger inquiry may be the first trickle in a coming wave of consolidated library organizations, or it may be just an isolated instance in response to unique local needs.

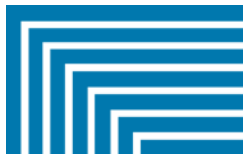
The output from the merger task force will be a position paper containing recommendations. The two organizations may ultimately decide that merging at this time is not in the best interest of the institutions they serve. One must applaud the process, however, and encourage other libraries, library consortia, and library associations to give merging serious thought and study. While a merger could have been pursued behind closed doors, followed by a triumphant, breathless announcement, MOBIUS and MLNC are to be commended for the openness of their merger exploration.

—Tom Peters

**More Info. @**

Joint Press Release: <http://www.mlnc.org/mlncmerger.pdf>

MOBIUS portal: <http://mobius.missouri.edu/>



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## **November 2008 Koha in Delhi, India**

### *Smart Libraries Newsletter*

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