

Dai Nippon Printing Co., Ltd, uses Xpriori XMS for Web-accessible Corporate Archives

Online Digital Library for Corporate Histories promotes wide utilization

Company

Dai Nippon Printing Co., Ltd and
DNP Corporate History Centre
Co., Ltd

Industry

Publishing

Web Site

www.dualchives.jp/shashinomori

Background

DNP recognized that its clients' customers wanted greater access to corporate histories and archival documents.

Challenge

DNP required a Digital Library System that could handle documents created in various formats and structures, and that could scale easily to meet undefined future needs.

Solution

Using Xpriori XMS at the core of its data management system, DNP created a web-accessible digital archive. The *Shashi no Mori* website enabled high-speed searches across all types of archival data.

Why XMS?

- Highly flexible data manipulation and management
- High-speed search capability and steady performance
- Handles heterogeneous data structures and formats effortlessly
- Automatic indexing at the element level
- No schema definitions required
- XRAD method

Dai Nippon Printing Co., Ltd, (DNP) offers publications such as books and magazines, as well as construction, electronics, and informational materials produced with high technology printing processes. Its Japanese client companies commonly publish limited editions of their corporate histories to commemorate the companies' anniversary dates. The histories are a popular resource for businesspeople and for researchers interested in analyzing trends for one or more companies. But because of limited distribution, access to the traditional printed corporate histories — as well as other corporate archival information — has been restricted.

In order to enable broader access to corporate histories, DNP developed a web-accessible digital library built upon Xpriori's XMS technology. The digital library features high speed search capabilities and allows users to query archives for any type of data, including photographs and sound recordings. Dubbed "Shashi no Mori," the website allows client companies to create higher value from corporate data.

The Setting

Corporate histories are so popular in Japan that Dai Nippon Printing Ltd, has a subsidiary, DNP Corporate History Centre Co., Ltd., whose primary function is producing and printing these documents. The Corporate History Centre has produced about 2,000 corporate history publications. With traditional paper printing, client companies had to guess how many copies to print, and either stored the extra copies or had too few copies to meet demand. It was apparent to Hiroshi Ishizaka of DNP's Corporate History Centre that clients would be better served by maintaining their histories in a digital library that could be accessed via the web.

"In the past, many companies and students wanted information that is available in corporate histories. The corporate history is often considered "the Bible" for company managers. We wanted as many people as possible to utilize the corporate histories and enjoy the benefit of reading them. Furthermore, these commemorative histories can provide source information and knowledge about companies for risk management, as well as provide information for employee training materials and for PR tools. Our goal is to support a wide range of uses for the corporate histories."
-Hiroshi Ishizaka

Mr. Ishizaka and Yutaka Shiratori, from the IT Development Department at DNP, decided to create an on-line digital library, called *Shashi no Mori*, to store the corporate histories and other archival data. When a company discloses its corporate history on the *Shashi no Mori* site, anyone can access the corporate history on the Internet.

The Opportunity

DNP was faced with the challenge of creating a digital library for thousands of company histories. There was no consistent format for these documents, which were saved in different DTP software forms such as Quark Xpress. If a corporate history was distributed on CD-ROM, it was converted with viewer software such as PDF for reading. Mr. Shiratori and other DNP engineers wanted to convert all of these histories to XML. The conversion of the documents to XML would enable managers to easily use the data for a wide range of activities, which would lead to new business development. The developers had to decide how to store the data. The development team considered various databases from different companies.

“To be honest with you, we were not completely convinced by native XML databases at the beginning because of concerns regarding performance and the ease of development. But, we received information about Xpiori® XMS XML Management System from our R&D Department in the US. Its performance was very attractive. You do not need the schema definitions, and it has high-speed search functions, and so on.”
— Mr. Shiratori

After they received a proposal from Mitsui & Co., Ltd. (Xpiori’s Distributor in Japan), DNP considered a new project model using Xpiori® XMS for its *Shashi No Mori* website. Mr. Shiratori thought that the features of XML and Xpiori® XMS would be fully utilized in this plan. He liked XMS’s original XRAD method, which enables development and build-up at the same time. Other attractive features of XMS included:

- XMS does not require upfront database design and can easily be adapted to meet unanticipated business needs that will arise later; this was important because the corporate archive data would be stored and used for a long term.
- XMS can handle corporate histories in various document structures and formats.
- XMS enables great flexibility and manipulation of the data and will easily handle new data that will be added in the future.

Above all, DNP wanted a very high speed search function; high speed search capability is essential to using the *Shashi no Mori* site as a digital library. After considering the above, DNP came to the conclusion that Xpiori XMS was the best choice for their XML database.

The Solution

DNP introduced a Pilot System and carried on with the project development, and they were pleased with the results. During verification, DNP and Mitsui tested the XML databases of other companies, but they did not meet the requirements of DNP. Xpiori had an extremely strong impact and offered easy and flexible functions and features that other XML databases did not, such as high speed, no requirement for schema definition, full automatic indexing at the element level, and steady performance. XMS met the requirements of DNP, such as allowing well-formed specification tuning and a large capacity. Furthermore, XMS supports XPath query and XQuery.

“Regarding search function, we repeated benchmark tests during the development. We repeated the verifications by changing the XML structure based on samples of corporate history data of different types. When we could not reach the expected speed, we changed the search formula to restrict the way of utilization, and we did detailed tuning. It is very good that you can decide the specifications by evaluation with Xpiori XMS.”
—Mr. Shiratori

The original system development method of Xpiori, XRAD (eXtreme Rapid Application Development), enabled efficient and effective development. DNP introduced the digital library based on Xpiori® XMS, and they continued with brush-ups until the official launch. They were very satisfied with the support of Mitsui’s Xpiori Support Centre during the test period.



The Result

The *Shashi no Mori* website was launched. Corporate histories are now web-accessible to many potential readers who never had an opportunity to read them in the past.

“Analysts, scholars and students could not read corporate histories when they were published only as printed matter. I hope that more people will have an opportunity to use the corporate histories with Shashi no Mori.”

— Mr. Ishizaka

The main feature of the Digital Library system is data management using XML. The implementation of the XML database built on Xpriori® XMS has enabled highly flexible data management. Anyone can read a corporate history and use the various search functions of *Shashi no Mori*. In addition to searching by list, date of issue, and industrial classification, readers can search by key words in the text, or by chronological table. For instance, readers can enter several keywords such as “Finance” and “Liberalization”, and the words found are shown with bold letters in the text. Furthermore, search by a certain period, particular publications, or by author and supervisor is also possible. It is easy to set up a number of items for view. The search speed is unaffected by the filters, and quick individualized searches are possible according to the reader’s need.

DNP’s Corporate History Center now allows companies to publish their corporate histories at the *Shashi no Mori* site for free. A fee is charged for converting the documents to XML data. Then the XML data can easily be extracted to use for internal documents, CD-ROM, Web content, pamphlets or other media. By publishing their corporate histories on *Shashi no Mori*, DNP’s client companies can increase the availability of corporate information while reducing stocks of printed material.

DNP envisions a new type of corporate history publication in the future; namely the corporate history will first be published on *Shashi no Mori*, and then it can be converted from XML digital format to printed paper as needed. This will promote the most beneficial utilization of corporate archives.

Mr. Shiratori foresees even broader uses for all types of digitally archived corporate data. For DNP, Xpriori® XMS can serve as the information source for corporate knowledge and a core to provide new value-added services.

“The corporate data materials -- internal and external data materials related to business activities -- are now stored in different forms such as paper documents, photographs, sound and visual recordings, articles, and digital data in different departments within each company. They are potential assets of companies. If a company systematically collects, manages, and stores these data materials, and if these materials are owned and used jointly, it will be possible to create higher value from the same information.”

—Mr. Shiratori

Mr. Shiratori has grasped the promise of Xpriori XMS. XMS allows the management of all types and all aspects of information – data, context, and structure – in the same dynamic way. XMS opens up new possibilities for unified information management systems where disparate forms of information can be managed together, and where business users can explore, discover and analyze information in real-time without knowing a thing about database design.

Xpriori, LLC thanks our General Distributor in Japan, Mitsui and Co., Ltd., MKI Mitsui Knowledge Industry, for its cooperation in producing this case study. For more information about Mitsui and Co., Ltd., visit <http://www.Xpriori.jp>



For more information about Xpriori, including our product brochures, white papers, and company information, please visit us at www.xpiori.com.

About Xpriori

Xpriori is a technology innovator and provider of a self-constructing XML database and related products that are powered by the company's patented Digital Pattern Processing technology.

Xpriori's products allow organizations to rapidly respond to changing business requirements by eliminating costly database development time and enabling the creation of adaptable applications – business applications that easily adapt to heterogeneous and ever-changing data sets.

Xpriori is privately held and headquartered in Colorado Springs, Colorado. For more information, visit us on the web at

www.xpiori.com.

Xpriori XMS

Xpriori® XMS, XML Information Management System, is a self-constructing native XML information management system built on Xpriori's patented Digital Pattern Processing technology (DPP) for the purpose of persisting, managing and developing solutions with XML.

Xpriori Content Manager, XCM, is only one of many applications built to leverage the power of DPP and XML using Xpriori® XML Information Management System.

With Xpriori® XMS, changes in business requirements or upgrades in functionality can be accomplished without traditional application and information design, significantly increasing an application's extensibility and flexibility while dramatically reducing its time to market and total cost of ownership (TCO). Using a pattern-centric approach, Xpriori customers realize a competitive advantage through their ability to deploy high-performance, customizable applications that fully leverage valuable XML information. Please contact Xpriori to find out how we can help you to build XML-centric applications.

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