HiSoftware Case Study
State of Minnesota Foundations Project

Customer
State of Minnesota Foundations Project
Winner of the Freedom of Information Award, March 2000

Category
State Agency

Application
Implementation of Dublin Core metadata schema to provide better public and agency access to state environmental and natural resource information

"HiSoftware's TagGen™ metadata tagging software was crucial to the success of the Foundations project. It greatly simplified the process of cataloging and retrieving electronic documents. We spidered 13 state agencies through one gateway then used TagGen to apply metadata to their documents. And, because TagGen's user interface is so straightforward, the agencies are now cataloging documents on their own."

Eileen Quam, Information Architect, Minnesota Department of Natural Resources

The Business Problem

The Foundations Project is a State of Minnesota multi-agency collaborative project developed to facilitate access to environmental and natural resources information on the World Wide Web. The project began in 1997, when thirteen state agencies met to discuss how to provide centralized access to the huge volume of environmental information scattered across their separate web servers. This information included web pages, PDF documents, tabular data, and geographical data.

In order to accomplish this goal, the group had to solve the following problems:

1) Establish consistent cataloging guidelines and other searching aides designed to be intuitive and easy to use for both specialists and non-specialists;
2) Develop an indexing schema that would handle many different data forms;
3) Enable individual agencies going forward to add new documents with minimal training and effort;
4) Develop advanced search and retrieval techniques that integrated access to this information across multiple agency web sites.

Foundations' biggest challenge was finding an indexing and cataloging solution that would handle multiple data types, according to Eileen Quam, Foundations' Project Leader and Information Architect for the Minnesota Department of Natural Resources.

"When we began our search initiative two years ago, metadata indexing was a relatively new concept," said Ms. Quam. "We found a few libraries successfully using the Dublin Core metadata schema to classify and index electronic documents in much the same way that a card catalog provides 'SUBJECT', 'TITLE', 'AUTHOR' searchable criteria for library books. Another benefit of using Dublin Core was that we could add and qualify additional searchable elements. For example, we could add the field, 'CONTRIBUTOR', and also specify what kind of contributor (i.e., Page Designer and Editor). "However, a big hurdle remained: *How* do we embed metadata into millions of existing electronic documents, and make it easy for state agencies to add new documents going forward?"

The Solution

"With metadata indexing being relatively new, there were few software tools available that would handle the Dublin Core schema," continued Ms. Quam.

We were amazed when we discovered TagGen™, an automated metadata embedding solution from Hiawatha Island Software Company, Inc. (HiSoftware). In addition to being the only product that supported the full

Dublin Core schema, we were delighted at HiSoftware's willingness to customize the software to our needs. For librarians like me who work with information all of the time, it was very gratifying to have input on this technology.

With TagGen, the State of Minnesota added metadata to appropriate pages across all thirteen agency web sites. Project leaders from each agency were also trained in TagGen so that they could add new documents to the central repository going forward.

The next step was creating a centralized search gateway. All thirteen agencies' web sites were spidered together into a single access point called the Bridges Search Interface, using the Inktomi® Search engine. "We chose the Inktomi® Search engine (formerly Ultra Seek®) because we can tune it to look for Dublin Core metadata," explained Ms. Quam.

"Inktomi Search Enterprise provides full support for enhanced metadata searches, providing increased relevancy for documents that are accurately tagged. The combination of Inktomi Search Enterprise and HiSoftware's metatagging solutions has provided the Foundations Project with superior search results," said Rahul Lahiri, Director of Search Software for Inktomi Corporation.

The Bottom Line

The Foundations Project has been a huge success on a number of fronts.

In tests of the Bridges Search Interface, virtually all participants found it easy to locate the information they needed. "Adding the metadata dramatically increased the relevancy of search results as well," said Ms. Quam. Published usability studies of the Bridges Search Interface can be found at http://bridges.state.mn.us/userstudy.pdf

A Dublin Core Metadata and Controlled Vocabulary Study can be found at http://bridges.state.mn.us/user2study.pdf.

Secondly, Foundations received the Freedom of Information Award (also known as the John R. Finnigan Award) in March 2000. The project's published "Best Practice Guidelines for Web Metadata" has been endorsed by the Minnesota Office of Technology, and can be accessed at http://bridges.state.mn.us/bestprac/index.html.

The Foundations project has also received kudos for their innovative use of TagGen, particularly in creating pointer files for PDFs and Microsoft® PowerPoint™ files.

Lastly, the Foundations project has served as a benchmark for other states, cities, and even countries now adopting metadata schema. Government Information Locator Service (GILS) efforts in Wisconsin and Utah, for example, have adapted the Foundations blueprint, and inquiries from Ireland and the Netherlands continue to show the relevance of the Best Practice Guidelines. Many of these metadata efforts include the adoption of TagGen for their metadata tagging needs.

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