letting end users ASK THE QUESTIONS, STAT!

BY NANCY DAVIS KHO

ORGANIZATION: **Hartford Hospital, www.harthosp.com**

VENDOR OR SOLUTION PROVIDER OF CHOICE: **Progress EasyAsk, www.easyask.com**

More Ways to Make Patients Better

Hartford Hospital, founded in Hartford, Conn., in 1854, is one of the largest teaching hospitals and tertiary care centers in New England. The hospital has one of the region's busiest surgical practices. Its active medical staff includes more than 900 physicians and dentists within 17 departments. In 2006, the hospital had more than 39,200 discharges and 80,000 emergency department visits, and it delivered close to 4,000 babies. It has been training physicians for nearly 130 years, and is a member of Hartford Healthcare Corp., a large, diversified healthcare system.

The hospital is an 867-bed regional referral center that provides high-quality care in all clinical disciplines. Major centers of clinical excellence include cardiology, oncology, emergency services and trauma, mental health, women's health, orthopedics, bloodless surgery, and advanced organ transplantation.

Hartford Hospital has been a top 100 hospital multiple times. In a survey published by the AARP, it was the only hospital in Connecticut to be ranked among the country's top 50 hospitals overall and among the top 10 for cardiovascular surgery. In January 2004, Hartford Hospital won nursing's most prestigious award, Magnet Status.

Unlocking the Mainframe Environment

During the 1970s and 1980s, Hartford Hospital was what Jack Alberti, director of IT special projects for the hospital, terms "a straight mainframe shop." Data on patients, doctors, and procedures databases existed in a mainframe environment that was closely controlled by coders and the IT department. It made it nearly impossible for end users to perform ad hoc queries that could answer critical questions, such as identifying new cases of hospital-acquired infections. "We were database neophytes," recalls Alberti, who joined the hospital's IT staff in 1984. "I wasn't even allowed to query the databases, and I was on the IT staff."

In the late 1970s the hospital began using a product called Intellect from Artificial Intelligence (AI) Corp. AI was founded by Larry Harris, Ph.D., a computational linguistics professor and an internationally recognized expert on database systems and computerized natural language. "Intellect turned English-language questions into SQL queries" that could run on Hartford Hospital's structured databases, Harris recalls, but it was tied into the IBM mainframe environment and was available to end users on a very limited basis. That made it unwieldy in an environment

EasyAsk enables users to query patient rosters for antibiotic susceptibility.

where fast, accurate answers could truly be a matter of life and death.

Alberti recalls the first time that the hospital's IT staff began looking at whether web-based access with support for natural language queries was feasible for replacing the mainframe database environment. "It was actually back in 1998, when we were preparing for Y2K," he recalls. "We were deciding whether to upgrade the mainframe or just put a bullet in its head and move to a web-based environment." Helping to make the decision in favor of web access was the increased use of PCs within the hospital, giving end users a taste of smaller, more flexible databases.

By that time Harris had sold AI and moved on to found EasyAsk, a company providing a natural language query solution for both the client/server and web environment. Given Alberti's experience with Harris' Intellect product, he was intrigued by EasyAsk, but there were some obstacles. "We were ready to convert to a more web-centric environment," Alberti said, "but we had about thirty databases that we needed to get off of the mainframe first." He recalls just how simple EasyAsk made the conversion—within 20 minutes of discussing the problem with Harris, he was emailed a custom executable file that made converting the databases "a no-brainer." That was the late 1990s, and Alberti's been using EasyAsk ever since.

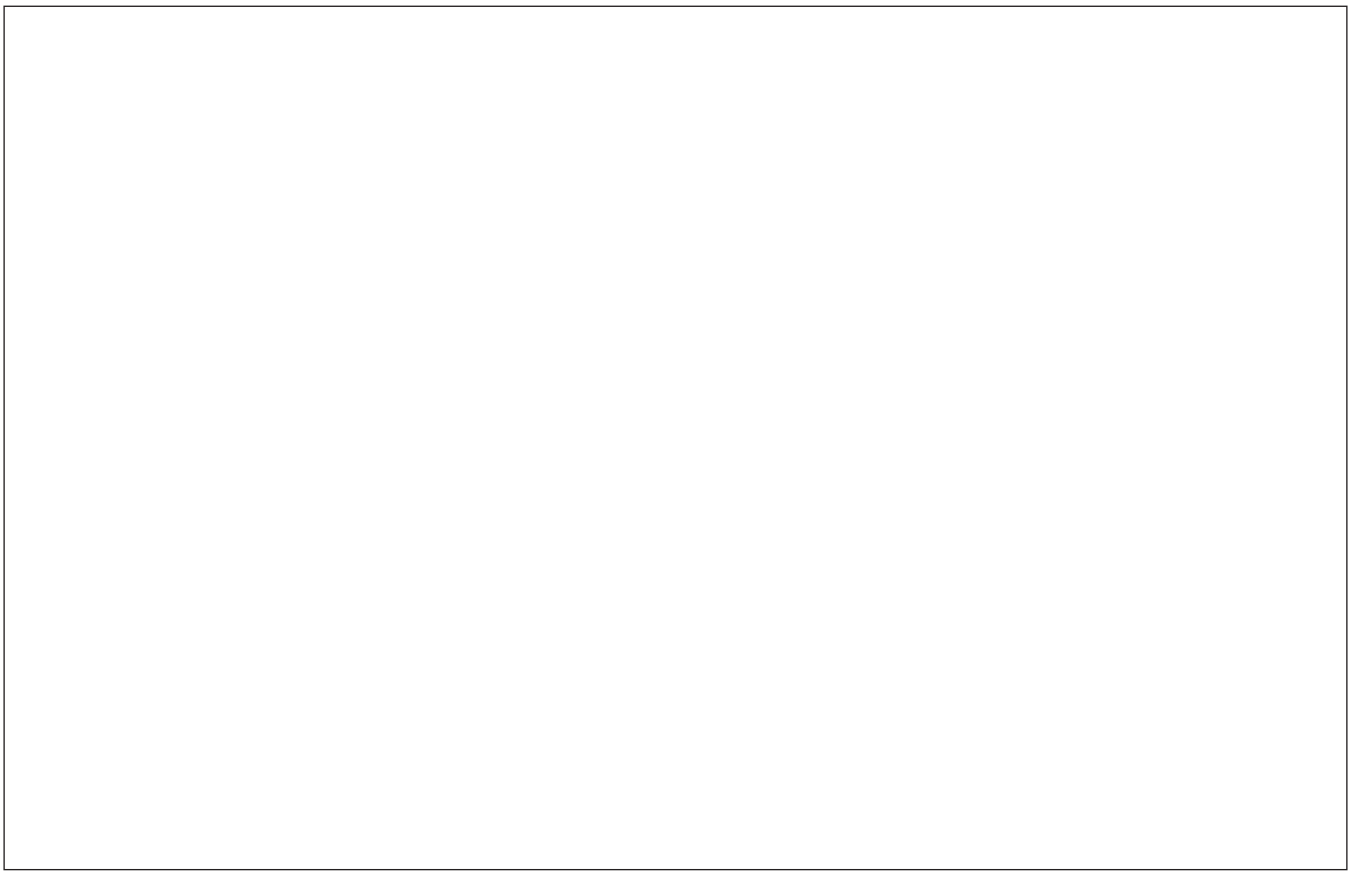
Giving Nontechnical Users Tools for Natural Language Queries

According to Harris, EasyAsk utilizes advanced linguistic technologies understanding and domain expertise derived from the data source being searched in order to create a more precise query and return more accurate answers. "Unlike search engines such as Google, which rely on word matching, EasyAsk works with a company's structured relational databases to generate answers, not just a list of sources," explains Harris.

The company, which was acquired by Progress Software Corp. in 2005, offers solutions for ecommerce sites and ISVs, but it was EasyAsk for the Enterprise that made sense for Hartford Hospital. Built on a secure, J2EE-based open standards architecture, EasyAsk's natural-language query enables access to data and content across more than 225 data formats. Its industry-specific dictionaries enable users to ask plain-language business questions of their applications and information stores. These dictionaries can be continuously refined with the everyday language of departmental business users.

According to Harris, a unique factor in EasyAsk's success with Enterprise users is that "we insist on building the first application with them, to train them on their own data. But once that's done our customers build subsequent applications on their own."

In the case of Hartford Hospital, the first deployment was to the hospital's payroll department. From having only a handful of users with the technical knowledge to query the mainframe database, Alberti says, "We suddenly had seventy or a hundred users who could access payroll data" to ask plain-English questions such as how much



The director of Infectious Disease uses report output to identify trends and optimize therapy for antibiotic susceptibility.

vacation time was accrued in a particular department or on what date a particular employee began working for purposes of employment verification.

The Go-to Application for Business Questions

Impressed by the ease of use and accuracy of results in the payroll department implementation, Alberti began looking for other projects that EasyAsk could help with.

"The one everyone likes to talk about is our microbiology database," Alberti says. In that case, after learning that the infection control staff members were spending 60 to 90 minutes each day manually searching through files for hospital-acquired infections (HAIs), the hospital started customizing EasyAsk's query tool. By migrating separate databases and creating a dictionary within EasyAsk that explains the relational structure of the database to the query tool, the infection control staff was able to quickly determine the types of HAIs and related patient information they needed.

The EasyAsk software was programmed to automatically scan the databases and create daily email alerts flagging the presence of infectious diseases within the hospital systems. Infection control staff and clinicians receive customized daily or weekly HAI alerts and save upward of 5 hours a week through this automated process. As for accuracy, says Alberti, "it's as close to 100% as you can get."

Alberti continues to find uses for EasyAsk's capabilities, running ad hoc queries and establishing predefined reports for use within the hospital, such as a new report identifying patient susceptibility to antibiotics. As for end user training, Alberti laughs, "It's fifteen minutes with me. It's so easy; I show new employees the basics and send them away to play with it. I might get one question back, but that's usually it."

He admits that EasyAsk has become his tool of choice. "It's the first weapon I take out when I hear of a problem that needs an answer." But he also notes that he has a deep understanding of the underlying data, and he encourages new users to always "gut-check" their results. "I was trained as a pharmacist so I understand the structure and the meaning behind the data—like procedure name, completed versus scheduled cases versus signed-off cases, and so forth." While EasyAsk makes it possible for non-technical users to generate queries, it's worth remembering that "if you don't understand what the data means and where it's coming from, you may get skewed results."

NANCY DAVIS KHO (nancy@daviskho.com) is a freelance writer and business consultant focusing on the digital content industry. Her work has appeared in *Enterprise Search Sourcebook*, *EContent* magazine, and the *San Francisco Chronicle*, among other publications.

THE NEW

ENTERPRISE SEARCH NEWS PORTAL

SITE FEATURES:

- News gathered by ITI editors and fed daily to the site.
- In-depth articles, case studies, and interviews organized into topic centers
- Product demonstration space for search and related companies
- User-generated content space
- Weekly e-newsletter blast (Enterprise Search Xtra)

PROVIDING NEWS, INFORMATION, AND ENTERPRISE TECHNOLOGY SOLUTIONS FOR SEARCH TECHNOLOGY BUYERS AND SELLERS.

Do you have an information-handling technology that you would like to demo on our site?

JOIN OUR FREE DEMOSPACE!

Get your product in front of your main audience and work with us to gather leads for your technology!

Register your product at

www.ENTERPRISESEARCHCENTER.com.

EnterpriseSearchcenter

Information Today, Inc. 143 Old Marlton Pike • Medford, NJ 08055 • 609-654-6266 • 609-654-4309 • www.infotoday.com