ASNA Case Study

ASNA Visual RPG prepares Wasserstrom for the next 100 years

Celebrating its 100th year in business in 2002, the Wasserstrom Company has obviously learned how to make its customers happy. Over the course of those 100 years, the Wasserstrom family has built a small family business into the nation's second largest smallwares distributor and equipment fabricator for the food service industry. Wasserstrom operates seven state-ofthe-art custom wood and metal manufacturing facilities and seven state-of-the-art distribution centers.

Companies don't get to be 100 years old by accident. It takes lots of care and diligence. And to Wasserstrom, that care and diligence is all for its customers. Wasserstrom excels by tailoring itself to meet each customer's special needs. When the company was just starting, Orville and Wilbur hadn't yet gotten the Kittyhawk airborne. But today, Wasserstrom uses technology to ensure its customer's complete satisfaction. As an early adopter in technologies such as bar coding, scanning/electronic data interchange and computerized order entry, Wasserstrom has always been on the leading edge. Today, Wasserstrom's use of the Web is also leading edge. Wasserstrom uses the Web to tailor fully its solutions for its customers—around the clock!

To the Web with AVR

"We needed a Web-based e-commerce site that offers customized product catalogs (with full shopping cart capabilities) for our regular customers as well as the general public," says Wasserstrom's Senior Programmer/Analyst, Bill Deady. "I'd used ASNA Visual RPG for some Windows projects. After reading some of the articles at ASNA's Web site regarding AVR Web development, curiosity got the better of me and I decided to give AVR a chance for our new Web project." Until Bill got involved in the project, the Wasserstrom E-Commerce Web site was developed and maintained by a third party. While it was serviceable, it didn't provide all the features Wasserstrom needed and it wasn't maintainable in house.

Bill is a long way from the typical Web developer. When he started working on the Wasserstrom e-commerce site, he had no experience

At a glance...

Customer Profile

For more than 100 years, the Wasserstrom family has built a small family business into the nation's second largest smallwares distributor and equipment fabricator for the food service industry.

Situation

Wasserstrom needed a Web-based e-commerce site that offered customized product catalogs (with full shopping cart capabilities) for their regular customers as well as the general public.

Solution

Using AVR for .NET, Wasserstrom now hosts their own Web site, which interacts directly with their IBM I and can now react faster, and more knowledgably to keep their Web site current and effective.

Benefits

Customers can now place orders on their site at virtually anytime of the day or night (at least half the current orders are placed outside of normal business hours).

Customers can make secure credit card payments easily and they can quickly track the shipping status of their orders.

Products

AVR.NET, DataGate, IBM i, OS/400

with Web development technologies. Zero. Zip. Nada. He explains, "Prior to this project, I was primarily a green-screen programmer. Our environment is mostly green-screen IBM I applications, so interesting opportunities like this don't occur much. I had dabbled with AVR and Visual Basic, but nothing too extensive. However, after following the examples in the ASNA AVR Smarties for the Web manual, I saw how easy it was to create Web pages that interact with our business data."

A Demanding Specification

The new Wasserstrom e-commerce site had several very specific requirements. Its most notable immediate needs were to:

Provide tailored product catalogs for customers.
Validate credit cards.
Not only let a customer enter an order, but also track an order's progress and status—in real time. This process needed to clearly report all back-orders and other potential trouble spots.
Provide shipment tracking and tracing.
Be able to connect not only to the primary Wasserstrom IBM I database, but also to some third-party data stored in Microsoft SQL Server.

The Wasserstrom site would be hosted on a Windows NT Server and connect to Wasserstrom's primary IBM I data server.

Bill's first step towards creating the Web site was to build a prototype. He'd only just done enough Web work with AVR to get intrigued; he knew he had miles to go if he was going to create a modern e-commerce site. "I started by creating a mock-up of our existing site. Within a short time, I was able to develop some Active Server Pages (ASP) with AVR that mimicked portions of our existing site. With the knowledge and confidence that I really could build the project with my RPG skills and AVR, I set into motion selling it internally. I had to demonstrate that I could develop our e-commerce solution with AVR. Because Bill had some positive experience with ASNA's AVR, he didn't even consider any other development tools.

Within a short time, I was able to develop some Active Server Pages (ASP) with AVR that mimicked portions of our existing site.

Bill Deady, Senior Programmer/Analyst

The green light

Bill's prototype got management's attention and they gave him the go-ahead to start creating the new Web site. Now, remember, Bill didn't have any Web development experience under his belt. Bill recalls, "I was the sole programmer on this project. I had support from various members of our advertising and sales departments; I needed them to provide the images, including the thumbnails, and to help with data entry to create the custom catalogs.

Bill's biggest challenges building the Web site weren't AVR-related. With AVR's language rooted in RPG, all Bill needed to do with AVR was to put his existing RPG skills to work. Bill's bigger challenges came with the tangential technologies the Web requires. He says, "I worked very hard to learn HTML, style sheets, and DHTML in as short a time as possible. The Internet was an invaluable tool for learning about these technologies." One especially helpful Web site is http://www.w3schools.com. It provides tutorials on virtually every Web-related technology.

"I faced a variety of challenges as I began to build the site. Figuring out how to code the expanding/collapsible menu for the catalog table of contents was especially challenging. This took lots of Web research and looking at quite a few other sites using collapsible menus.

Another big struggle for Bill was cross-browser support for his application. Making the pages look identical in both Microsoft's Internet Explorer and Netscape's Navigator took lots of testing. Bill spent lots of time learning the subtle differences of each browser.

As Bill's site started coming together, he realized he needed help in one big area: he needed help to improve the appearance of the Web site. Late in the project's cycle, an outside Web designer was contracted to help Bill spiff up the site. "This portion of the project took about six weeks. I sure learned a lot, though. I got to the point during the process where I was able to anticipate the changes the Web designer would suggest next."

Data is the key

To improve response time with Wasserstrom's highly normalized IBM I database, the bulk of the shopping catalog data was stored in an ASNA Acceler8DB database on the Windows 2000 Server. A server-side Windows-based AVR program was written to update pricing and other item information on the local database on the Windows NT Servers each evening. Even with this cached data, real-time database access to the IBM I is performed for each order. The IBM I performs real-time item availability and performs tax calculations. The IBM I is also accessed for shipping status and shipping tracking numbers.

In the final stages of the project, Bill tackled credit card authorization and shipment tracking. For credit card authorization, he used SkipJack Merchant Services (http://www.skipjack.com). "Most of the SkipJack examples were written in C++ but a few were provided in Visual Basic. I was able to translate those calls to AVR with a little diligence and hard work. Ultimately, getting the credit card authorization process working with AVR and SkipJack's API was easier than I had anticipated," says Bill.

Order tracking was also a key part of the project. Bill explains, "I wanted to be able to display the status, including shipping and tracking info, for all outstanding orders. If the order had been shipped, I wanted to group the tracking numbers together for a convenient user display. Both UPS and FedEx offer the ability to link to their sites by passing tracking numbers. With the tracking numbers stored on our PC, creating the links to the UPS and FedEx sites with AVR was a relatively simple process."

In retrospect

As Bill looks back on the project, he ponders what he would have done differently. "I would have optimized the design of the main catalog database for a multi-tiered application. Because our Web project is constantly evolving and acquiring features, I'm pretty sure I'll get around to this chore someday.

"I also wish I had considered using HTML frames for the Web site. That would make it unnecessary to load the menu code on every page

Just what the doctor ordered

Bill's first pass at creating the AVR-powered Wasserstrom e-commerce site is an overwhelming success. The advantages it offers Wasserstrom includes being able to:

Host their Web site, which interacts directly with their IBM I, without any third-parties involved.
Maintain the site and create new features on an as-needed basis—without expensive and procrastinating third-party contractors.
Directly apply Wasserstrom business knowledge, through Bill, to the Web site. With the AVR-powered site, Wasserstrom can react faster and more knowledgably to keep their Web site current and effective.

Today, customers are able to place orders with Wasserstrom's site at virtually anytime of the day or night (at least half the current orders are placed outside of normal business hours). Customers can make secure credit card payments easily and they can quickly track the shipping status of their orders.

"I've had no formal training for Web site development. Everything I've learned, I learned on the job, at the keyboard! I couldn't have done this project without AVR. It let me put my data access skills to work and put my learning cycles to work on other phases of the project," Bill says. You can see Bill's finished product at http://www.wasserstrom.com.Wasserstrom sees 2002 not so much as its anniversary, but the opportunity to start the second 100 years of successful business. With Bill Deady and AVR, Wasserstrom is clearly poised for that second 100 years.

About ASNA

ASNA, provides comprehensive and flexible solutions for modernizing IBM i applications to the Microsoft .NET platform. ASNA enables companies to integrate and extend their solutions to .NET, the Web and beyond, while preserving investments in IT and human resources. ASNA solutions are distributed worldwide and used by more than a million end users.

ASNA is a Gold Level partner of Microsoft's Partner Network, Microsoft Visual Studio Industry Partner, and an Advanced Tier Member of IBM's PartnerWorld for Developers. ASNA is also a gold level partner of Microsoft's Platform Modernization Alliance.