

Cleaning up the store with Ajax

The rich Internet application is spiffing up retail web sites and enhancing the shopper experience

By Paul Demery

Coastal Contacts Inc., which does about \$80 million a year selling contact lenses throughout the world on 20 web sites, invested in a state-of-the-art online shopping feature two years ago--single-page checkout. Built with ColdFusion, a software development tool used for building dynamic web pages, the new streamlined shopping service helped to decrease shopping cart abandonment and boost sales. "We know the one-page checkout definitely cuts abandonment and improves visitor-to-sales conversion rates," says Nancy Morison, vice president of product management.

But the slick new checkout wasn't slick enough, Coastal Contacts soon learned. If a customer purchasing a set of clear lenses decided during checkout that she also wanted those green-tinted lenses after all, she'd have to leave the checkout page, backtrack to a merchandising page, and maybe--or maybe not--make it back to the checkout to complete the purchase. "They might just say, 'Where did the checkout page go?' and forget it, figuring they'll just come back another day," Morison says.

As everyone in online retailing knows, however, deciding to come back another day may result in a sale lost to a store or online competitor. So to kick its single-page checkout up to a new level of performance, Coastal Contacts re-launched it last month after rebuilding it on an e-commerce platform designed with Ajax--one of the hottest new tools for providing an easier and faster shopping experience on retail web sites.

Happier customers

Now, when a Coastal Contacts customer is about to complete checkout and decides to make changes, not only can she instantly update billing, shipping and order information on the same screen, she also can modify content in her shopping cart without leaving the checkout page. "Ajax allows the customer to remain on the page, with other data propagated back and forth," Morison says. "Single-page checkout definitely has improved conversion rates, and we're expecting Ajax to improve them even more."

And if the shopper wants to keep shopping, the data on her checkout page will be automatically saved as she closes it. The shopper then can view other pages, and later retrieve the checkout page with an updated cart by clicking a link from any page.

Providing that kind of customer-focused flexibility in the online shopping experience is one of the best steps e-retailers can take to get shoppers to complete a web site visit with a purchase instead of an abandoned shopping cart or a call to a contact center for help, many experts say. "This is all about improving the customer experience," says Jeffrey Hammond, an analyst with research and consulting firm Forrester Research Inc. "Web retailers are moving forward with Ajax because it improves the user experience, producing better conversion rates, lower page-error rates and fewer calls to the customer support center."

Ajax--an acronym for asynchronous JavaScript and XML--also makes content instantly appear on web pages or "on top of" web pages in a conventional or translucent window when a shopper clicks on or just moves a mouse over a page's existing content. This does away with the conventional and time-consuming method of clicking on an item or feature and the site having to generate and download a different web page. So new content--enlarged product images, paragraphs of detailed text, or rows of color and sizing options, for example--shows up with the slightest touch of a mouse.

Loose diamonds

Amazon.com Inc. helped popularize Ajax a couple of years ago by incorporating it into its product

recommendation engine and continuing to deploy it in new ways. Among Amazon's latest Ajax projects is the loose diamond finder in its Jewelry Store, where shoppers move sliding bars with their mouse to choose among six diamond characteristics--shape, price, carat, color and clarity--then see in near real time the number of available diamonds that meet all of their chosen attributes. All without requiring any other pages to be downloaded.

Other retailers using Ajax to build a faster, easier shopping experience include Gap Inc., whose redesign a year ago introduced an Ajax-driven QuickLook feature that pops up a detail window for each product. And just as Gap is helping to raise the online merchandising and shopping experience standards among apparel retailers, other retailers are likely to do the same for their segments. When the first retailer in a segment deploys Ajax, experts say, rivals are likely to follow.

In the online movie rental business, for example, Blockbuster Inc. uses Ajax to let online customers use a mouse to drag and drop chosen DVDs into a shopping cart. Shoppers also can mouse over DVD images to automatically trigger pop-up windows that provide more details on the selected movie. Rivals Netflix Inc. and Hollywood Entertainment Corp. also offer Ajax-powered mouse-over features on their sites, though it isn't clear which of the three retailers was first to market with Ajax.

Other retailers using Ajax include Abercrombie & Fitch, Crate and Barrel, and Rampage Clothing Co.

Risky business

For all its benefits, though, many retailers have yet to deploy Ajax out of concerns about its complexity and the change it brings to traditional development processes, says Mark Fodor, a partner at Brulant, an Internet marketing, site design and web application development company. In a recent survey of more than 200 online retailers, Brulant found that fewer than 20% were using Ajax technology and only 6% use it for more advanced techniques like increasing functionality in shopping carts.

"We're not seeing more retailers doing Ajax now because it's still a complex development," Fodor says. Ajax can provide the appearance of single-page checkout, for example, but that still requires seven to 10 steps behind the scenes to provide the proper flow of data in a way that doesn't confuse shoppers, he says.

Moreover, there are some 130 or more versions of Ajax toolkits, many with widely different capabilities. Some are known to have poor support of certain types of web browsers--failing, for instance, to support back buttons for site navigation--and some are better than others in supporting search engine optimization by making page content noticeable by search engine spiders.

There's also the concern that not all of a retailer's customer base may be ready for Ajax. Ajax works its magic by sharing software processing between the retailer's web servers and the customer's web browser. By placing just enough of that processing in the browser--enough to satisfy its "asynchronous" makeup--Ajax enables applications to display content in real time without taking the conventional route of pulling that content completely from a web server. While Ajax applications still pull new data from a web server, such as inventory updates, much of the content to be displayed, including many product images, already is in the browser as a shopper clicks for more content.

With the widespread use of broadband Internet access, most online consumers can take advantage of the software processing that Ajax places in their browsers, then quickly view the content produced by that browser-based software thanks to the enormous processing power in most modern personal computers. But each retailer planning to deploy Ajax should first consider the way its own customers access and use the web, experts say, because many may still be using older machines with relatively slow processing and/or accessing the web through dial-up services that offer only a fraction of the access speed of broadband.

Brand image

Ajax also presents new challenges in monitoring application performance. "Pushing software code literally out to the customer's desktop on their browser means it's not in a network you're controlling," says Imad Mouline, chief technology officer at web site performance firm Gomez Inc. "If their experience isn't good, it doesn't matter if it isn't your fault, it hurts your brand." Gomez recently launched an on-demand service, Actual Experience XF,

designed to test Ajax and similar applications that run in consumers' browsers.

Another concern is making web sites usable by disabled people. Because Ajax refreshes only parts of pages at a time, that can make it difficult for screen-reading tools used by blind and other disabled people, says Mike Deming, lead software engineer at web site development firm Fry Inc. "When building an Ajax-type interaction, you have to design alternative functionality of your web site," he says.

Combined with the newness and complexity of Ajax toolkits, such concerns have led to a slower adoption of Ajax by e-commerce companies compared to other industries, such as financial services and the new business of online social networking, experts say. "E-commerce sites have generally been laggards in Ajax," Schieman says.

In contrast, social networking sites have been among the most innovative in recent years in developing new web site designs and applications. And though social networking sites like MySpace.com and YouTube.com don't compete directly with retailers for product sales, they still pose a major threat in terms of stealing web traffic from conventional online shopping sites. "The fear of online retailers in 1997 was getting 'Amazoned,'" says Joe Chung, founder and CEO of Allurent Inc., which develops Ajax-designed applications for retailers such as Urban Outfitters. "The fear in 2007 is getting 'MySpaced.'"

Here it comes

Nonetheless, experts expect more retailers to begin using Ajax soon. "Sometime this year we'll see a full acceleration of Ajax into retail web sites," predicts Jason Billingsley, vice president of marketing at Elastic Path Software Inc., which sells an Ajax-enabled e-commerce platform used by Coastal Contacts and other retailers.

As it becomes more common on web sites, Ajax can also be expected to become more pervasive throughout enterprise applications. In addition to supporting consumer-facing web pages, Ajax integrates with back-end inventory and other systems as well as image databases, so not only can customers see more product images faster on pages, customer service agents can view inventory levels along with customer purchasing records.

Rampage Clothing Co., which wholesales women's fashion apparel and accessories through department stores, recently redesigned its consumer-facing e-commerce site, Rampage.com, to offer a level of service designed not to disappoint its department store customers.

In addition to the ability to mouse over product listings or images to instantly view more details and images, Rampage.com offers an outfit builder that lets shoppers click any of hundreds of products to make them appear in a "fitting room" section, or virtual closet, then click and drag items from the fitting room into a larger "dressing room" area to mix and match tops, bottoms, footwear and accessories to create outfits. Shoppers using the outfit builder first select products from a list that lets them drill down by category.

In addition to dragging items into the dressing room and arranging them as outfits, shoppers can click to make one item appear either on top of or below another item. So a blouse can be made to appear either tucked in or left out, or a pair of boots can be displayed either in front or in back of a pair of pants. "We couldn't do anything like this without Ajax," says Francheska Anderson, who has served as Rampage's director of e-commerce since 1999.

Because Ajax is used to integrate the product listings and images with back-end inventory and sales records, shoppers see the real-time status of each item's inventory availability in an instant pop-up window when selecting an item.

Rampage went live with its current site design in the middle of 2004. The combination of making the Rampage site interactive and easy to shop while allowing customers to check on cart contents while continuing to shop, Anderson says, boosted sales by about 30% in the first year of the redesign. She and Steven Laff, president of Rampage's site development firm, A Far Site Better, attribute much of that increase to a sharply reduced cart abandonment rate. "Shoppers completed checkouts seven times more often on the new site compared to the old site because they felt more confident that what went into their cart was what they wanted," Laff says.

Customer relations focus

Ajax's ability to integrate with multiple databases and quickly show detailed updates can also serve a key component of a customer-service focused strategy. Coastal Contacts, for example, has used Ajax to integrate its customer relationship management system with other enterprise applications on its Elastic Path platform, enabling it to use the CRM application's records of customer data as the source for running personalized marketing campaigns and online promotions.

This also enables the retailer's contact center agents to more quickly pull up customer and product data. "All the customer data is close at hand, so we'll do more calls per minute," Morison says.

Rampage also is using Ajax in administration tools for other back-end management processes. "We use Ajax to pull purchase order history and other data that we can request any time," Laff says.

Another course for Ajax will be to integrate with additional web site applications, such as site search and web analytics. "Longer term, one of the biggest challenges with Ajax is working with analytics to track what users of Ajax applications are doing," says Fry's Deming.

Many analytics programs currently work off individual page views to track the clickstreams of visitors, but they may not be capable of tracking Ajax-supported movements because Ajax lets online shoppers call up images and text without refreshing pages or creating new page views. "The challenge for analytics applications is to show where a shopper moved a mouse and what images popped up," he says.

But such challenges will likely get worked out, experts say, as retailers continue to use Ajax to develop new levels of interactivity for shoppers. "This is the third generation of our site, but it's so user-friendly with so many features, even visitors too young to shop find our dressing room a fun way to configure products," says Rampage's Anderson.

And building traffic and making retail sites destination points--especially among younger visitors who may be attracted to the MySpace.coms of the web--is what Ajax development is all about.