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Enhancing Web life with AJAX

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By now, most of us have used or heard of Google Maps (maps.google.com). Enter a location and a street map appears. Roll the mouse wheel over an area, and the map zooms in or out. Click inside the map, slide the image around--new areas automatically spring into view without delay. Google Maps is more responsive than older map sites such as MapQuest and Microsoft's Live Local, both of which require constant clicking on zoom level or directional arrows in order to change the perspective. And even then, there is the wait for the revised image to appear.

Google Maps is an example of AJAX technology in action. Knowingly or not, all netizens have been exposed to AJAX tools. Many of the AJAX technologies used today were developed by Microsoft Corporation in 1997. They went largely unheralded until recently, when Google put them to use in Google Maps and its other products. Suddenly, AJAX is touted as the promising Internet technology fully capable of realizing most if not all of the concepts and ideas of Web 2.0. [Editor's note: See Technology column on Web 2.0 in June/July 2006 issue.]

AJAX (Asynchronous Javascript And Xml) is a collection of tools and technologies facilitating rapid communication between Web browser and server. Instead of waiting for the user to click on a link or submit data, AJAX lets the browser communicate behind the scenes with the Web server each time new data is entered or received without first having to refresh a Web page. Thus, AJAX-powered pages speed up Web activities.

Businesses are augmenting their e-commerce sites with AJAX technology to streamline the user experience. Customers can drag and drop items into their shopping carts or configure products without refreshing pages. On the checkout page, the system quickly updates the total cost every time one modifies quantity of items or enters a discount code. When delivery address is entered, the system automatically refreshes shipping costs.

Another promising hope for AJAX technology is the development of Web-based software applications rivaling Microsoft desktop programs. Take a look at Google Spreadsheets (spreadsheets.google.com) or the Google Writely word processor (www.writely.com). They make it possible for the user to create, view, and edit .XLS or .DOC files directly from the browser with familiar interfaces that make it look as if Microsoft Excel or Word were actually loaded on the local machine.

These services are free and offer plenty of storage space. They also offer portability and collaborative benefits that are available only to a much more limited extent with locally-installed applications. Users access their centrally-stored files from anywhere via a Web browser without having to worry about whether the local machine has the specific application or version needed. Patrons can also invite others to review or edit files from their own browsers.

A few libraries and library vendors have incorporated AJAX into their sites or products. Evergreen, the open-source Integrated Library System developed by Georgia Public Library Service, has an AJAX-enabled OPAC called PINES (gapines.org/opac/en-US/skin/default/xml/index.xml). Clicking table of contents or MARC record links in PINES causes this information to pop up instantly. When conducting a keyword search at Virginia Technology's OPAC (addison.vt.edu), the system seamlessly provides a guesstimate of matches.

Library vendors are also catching the zeitgeist. Innovative Interfaces and Polaris Library Systems have incorporated AJAX into new products. OCLC's experimental DeweyBrowser (deweyresearch.oclc.org/ddcbrowser/wcat) uses AJAX to steer the user visually through the search for books in WorldCat.

AJAX technology is not perfect. Since there is as yet no set of standards, AJAX support is browser-specific. Security is likely to be AJAX's most serious Achilles heel. The first high-profile AJAX worm occurred in October, 2005, when a teenager released a self-propagating AJAX-based virus, effectively shutting down the MySpace social networking site for several hours.

In Greek mythology, Ajax was the legendary warrior, second only to the great Achilles. Under Ajax's leadership, the Greeks sacked Troy. AJAX redefines user experience and has the potential to supplant proprietary desktop applications. Simply, AJAX is offering many of the coming attractions in the new world of Web 2.0 and Library 2.0.