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3-D Web Surfing from SpaceTime

New software attempts to go beyond two-dimensional tabbed browsing.

By Kate Greene

Today, a New York-based company called SpaceTime (http://www.spacetime.com/) launched a new browser, free to download and use, that presents Web pages and search results as floating slabs that can be flipped through, organized, and navigated in 3-D. The graphics concepts are similar to those found in "first-person shooter" video games, in which players navigate an immersive virtual environment. But instead of shooting monsters, SpaceTime users can "fly" through search results such as Web pages, pictures, and eBay auction items. When a user turns her view to the left, the right, up, or down, she can see all the Web pages she has previously called up and zoom in on the one she wants. "SpaceTime is interesting because it constantly redraws the scene that you see ... just like a video game where you can assume any position," says Edward Bakhash, CEO of the company.

Anyone who has used Vista, Microsoft's new operating system, knows that viewing 3-D content on a computer isn't new. With Vista, windows are arranged in a 3-D stack, and users can flip through them and pick the one they want to bring forward. The upcoming version of Apple's OS X will use a similar effect in a feature called Time Machine that presents and saves every version of a file created on the computer. Bakhash says that SpaceTime is different because it doesn't need to be hardwired into an operating system, and it allows for more-dynamic navigation.

SpaceTime is part of a trend to take advantage of the massive amount of memory that's available in today's standard computers. Software designers are able to build graphical bells and whistles into applications, thanks to the steady increase in computing power with each successive generation of processor. For the most part, says Bakhash, high-powered graphics chips are used to "beautify what you see, to make a video game more realistic, or add more lighting effects." With SpaceTime, he says, "we take that power and give the user more utility."

SpaceTime, which is still in a testing phase, can work on Windows XP and Vista, and it's designed for systems that have a minimum of 128 megabytes of video memory and 512 megabytes of system memory. Bakhash says that the company has tested the software on computers with half of the above requirements, and "it worked, but not properly."

When you launch SpaceTime, you'll see a Web page address bar at the top of the screen as well as a bar for entering search terms. As with Firefox and Internet Explorer 7, a user can select different search engines; in this first version, SpaceTime's search bar includes Yahoo and Google (and their respective image-search functions), Flickr, and eBay. Web pages and search results are shown in the center of the screen and float against a light-blue background with clouds. At the bottom of the SpaceTime screen, there is also a two-dimensional timeline that shows a thumbnail view of each search you've made or page you've called up. Additionally, on the left there is a window (it's hidden in default mode) that lets people navigate through their Web history by using drop-down menus.

During a Google search on SpaceTime, 11 3-D windows will pop up on the screen. The first will be a Web page with the search results; the rest of the windows are the pages of those first 10 results. One of the problems with two-dimensional browsing, says Bakhash, is that it's time-consuming to click on a search result, and then hit the "back" arrow to see the results page again. The advantage with the 3-D design, he says, is that the user can visually decide, relatively quickly, whether or not she wants to look at a page.

Admittedly, opening pages to the first 10 results of a Web search may be overkill, as most users don't need that much information. But where SpaceTime shines is when it's used to search for images or eBay items. In this case,

just the pictures are displayed. Users can quickly zoom in on the images through the SpaceTime interface, without having to go directly to the picture's website.

The SpaceTime graphics team has been working on the software for about eight years, says Bakhash, and the result is patent-pending technology that allows the software to accommodate more than 60 open pages and images. Bakhash says that he and his colleagues have developed a system to manage the graphical memory so that it doesn't get overloaded with all the visual information, but still quickly lets people see what they need to see. Part of the system, he says, anticipates what a user needs to see based on how she navigates the 3-D environment of SpaceTime.

SpaceTime could be advantageous for "power users" who like to have many tabs or windows open at once, says Bakhash. Unlike with tabbed browsing, in which the tabs shrink as more are opened, cluttering the browsing window, SpaceTime doesn't constrain the amount of room a person can use in the browser for opening pages and searching the Web. All previously opened pages and searches are automatically saved and are accessible through the two-dimensional timeline, through the drop-down menu, and, of course, by navigating the 3-D window as well.

Despite all the neat visual effects, some experts are skeptical that SpaceTime will catch on any better than other 3-D software that has come and gone over the years. The main reason that consumers don't flock to 3-D software for tasks such as Web browsing is because, in general, the applications tend to be slow, says Andries van Dam (http://www.cs.brown.edu/~avd/) , professor of computer science at Brown University, in Providence, RI. "If it helps people navigate faster, then that's one thing," he says. But in practice, he says he has found that almost all 3-D applications simply don't provide a better user experience.

Bakhash says that SpaceTime has conducted focus groups--composed of everyone from people who have never used a computer before to those who immediately buy new high-tech products--to see how a broad range of people respond to the software. "All of these different target markets enjoyed using SpaceTime," he says. He adds that gamers, in particular, took to it very quickly. However, his company has yet to perform trials that determine, quantitatively, how the SpaceTime user experience compares with that of a two-dimensional browser.

Even so, more features are planned for the next versions of the software. These include the ability to search and filter online subscription feeds, to search with different engines, and to compare searches side by side. Also, Bakhash says, future versions will allow users to save "spaces" so that each time they launch SpaceTime, certain windows or searches will pop up in a particular orientation.
