The Reinvented Net

The 'new' Internet will make collaboration and innovation much easier for schools by allowing students and staff to flourish in the Web 2.0 world of social networking

Technologists busily reinventing the Web say schools can look forward to an Internet in which it will be much easier to collaborate, much easier to innovate, and much easier to manipulate data and software on a wide variety of Net-friendly devices.

Driving this change—a trend loosely referred to as Web 2.0—will be the rapid and widespread adoption of social networks, which schools will seize on to collaborate internally, and students and parents will use to play an active part in their school community.

Indeed, technology market research firm Forrester (www.forrester.com) predicts that organization investment in social networks will reach nearly a billion dollars annually by 2013, as schools and organizations capitalize on a trend first recognized by companies like MySpace (www.myspace.com) and Facebook (www.facebook.com). Initially, schools will be able to source software for building these social networks from small and nimble boutique providers like Neighborhood America (www.neighborhoodamerica.com) and Leverage Software (www.leveragesoftware.com). Both offer tool suites that bundle the most popular facets of social networking, such as profile creation, blogs, discussion forums, and content uploading and sharing, according to Forrester.

But by 2013, expect the biggest guns in the software industry—SAP, IBM, and Microsoft—to have fully incorporated Web 2.0 tools into their product lines, says G. Oliver Young, author of the April 2008 Forrester report, *Global Enterprise Web 2.0 Market Forecast: 2007 to 2013*.

"SAP, IBM, Microsoft and others are already beginning to give away Web 2.0 functionality for free to drive use of their core applications and add value to engines," Young says. "Microsoft's SharePoint has a lightweight wiki (a network-based collaboration tool), while IBM is now offering social networking mashup technology through its Lotus Connections and Lotus mashups products, respectively."

"Mashups" are tools that enable users to combine data from previously disparate databases that often reside in different software packages.

An equally influential feature in the reinvented Web will be a new approach to computing where most—if not all—of a school's software applications will reside on the universally accessible Web, rather than locked away on mainframes or on individual PCs.

Computing in a 'cloud'

The concept, known as "cloud computing," is illustrated in new software such as Microsoft's Live Mesh (www.mesh.com) and Apple's MobileMe service (www.me.com). MobileMe is more for individuals, while Live Mesh is being designed to link all of a company's Internet devices—including desktops, laptops, cameras, mobile phones, media centers, and digital picture frames—for instant collaboration.

Essentially, the software will enable a school to synchronize data and applications across all devices as much as possible, enabling all of those devices to "become aware of each other" as long as each is linked to the Internet via a wire, or via WiFi, according to Amit Mital, Microsoft's general manager for Live Mesh. A school using Live Mesh, for example, could take a picture of the winning touchdown at a year-end football game, quickly post it to the school's website, and simultaneously broadcast it to the cell phones of all school sports fans.

Currently, Live Mesh only links Windows-based PCs connected to the Web via wire or WiFi, although plans are being developed that would enable firms to link mobile phones and Mac computers within the same Mesh, Mital says.

Of course, in its ideal form, cloud computing will not be driven by just one major company like Microsoft, or favor the linking of devices that run on one type of software, according to Tim O'Reilly, CEO of O'Reilly Media, a computer book publishing firm that also hosts Web 2.0 conferences (www.web2expo.com).

Instead, the purest implementation of cloud computing will enable any computerized device a school uses to simultaneously interconnect with every other

computerized device in the district's technology arsenal, O'Reilly says.

Open source and sensors

That ethic—a world based on the premise that all software should be able to easily run on all computerized devices, regardless of which company creates that device or software—is often referred to as open source computing.

Most technologists point to the Linux operating system—an alternative to Microsoft Windows that is free, owned by no particular organization, and specifically designed to encourage innovation by anyone and everyone who is interested in enhancing the system—as a key example of the open source ethic in action.

More recently, extremely influential technology companies like Yahoo have decided to embrace open source as a core operations philosophy. Ari Balogh, Yahoo's chief technology officer, says the company is rewiring itself "from inside out" to ensure that independent software developers can easily develop new applications for the Yahoo community—and instantly post those applications to Yahoo. In practice, Balogh says this added openness will result, in part, in an ever-increasing number of data mashup tools, which will enable users to combine data available on Yahoo in new ways for highly specific research needs.

An individual school embracing this same ethic, for example, could allow a parent or student user of its school social network to post a mashup tool on the school's website. The tool then could be used to automatically find and post links to blogs authored by others in the school community.

Finally, O'Reilly says another cornerstone of the reinvented Web will be the increasing proliferation of computerized sensors programmed to continually update the Internet with time-sensitive data. Essentially, the sensors will eliminate the drudgery of inputting such data by hand.

O'Reilly points to vehicle traffic analysis systems like Dash Navigation (www.dash.net) and Microsoft's still-in-development ClearFlow as pioneers of this trend. Both software solutions rely on GPS devices embedded in a large number of vehicles to automatically relay data to Web-based software. The data then is used to analyze traffic patterns and suggest alternatives to routes for drivers.

The potential downside

As the future Web rolls out, we will "all be asked to contribute our sensors," to help drive a wide array of analysis software tools residing on the Internet, O'Reilly says.

Unfortunately, there is a dark side to all this frothy innovation. As more and more data and software applications migrate to the Web, a real threat exists that ultimate control of most of those applications and data will become centralized in the hands of a few, large technology companies, O'Reilly warns.

"We need to watch that," he says.

Fortunately, those who believe that everything that is new is not necessarily better can take solace in the prediction that the revolutionary tool which made the Web possible, the browser, will most likely be around for a long time to come—despite the fact that competitors like the iPhone are cropping up.

The reason? Despite the fact that the Web browser is "so '90s," the tool is such a ubiquitously entrenched part of the Web experience for users across the globe that it makes no sense to reinvent the wheel. "There's really no incentive," says Mark Andreessen, founder of Netscape, the browser that played a pivotal role in the Web's emergence. ■

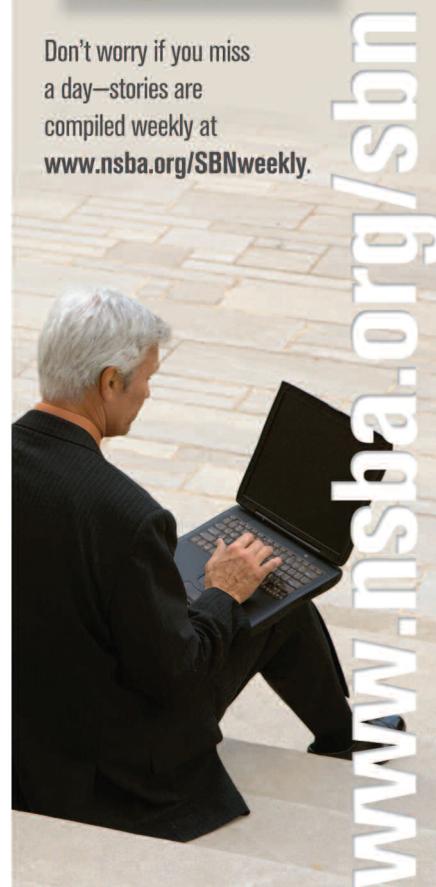Joe Dysart (joe@joedysart.com) is a Manhattan-based Internet speaker and business consultant, and a regular contributor to *ASBJ.*