

TECHNOTRENDS®

Newsletter

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New Tools To Increase Communications **By Daniel Burrus**

The Internet continues to provide new and innovative ways for organizations and individuals to better communicate with anyone, anywhere on the planet. In past issues of this newsletter, we have provided the latest news on the technologies I will highlight in this article; however, you may not have had the time to actually use them personally or professionally. Together, let's take a strategic look at a few you should be taking action on either now, or in the very near future.

Blogs

A blog, or Web log, is a Web page that serves as a publicly accessible journal. E-mail is a private way to electronically communicate. Blogs create a two-way, open exchange and are public, available for all to see. Blogs are an incredible tool for sharing information and expertise. Blogs can offer organizations a platform where information, data, and opinion can be shared among employees, customers, partners, and prospects in a way that was previously impossible. Boeing uses blogs to offer its point of view on competitor Airbus' new super-size airliner. Advertisers read blogs to track the effectiveness of their ad campaigns. Studios are using blogs to see which movies are generating buzz. Ask yourself: Could we increase customer communication and marketing using blogs?

Vlogs

A vlog is a video version of a blog or Web log that serves as a publicly accessible on-line video journal. Like blogs, they create a two-way, open exchange and are public, available for all to view. Vlogs may be watched on the computer or downloaded to a portable device for later viewing. Using vlogs, the Internet can be used as a medium through which people can communicate and network visually with personal video posts, and create programming and content not controlled by major broadcasting networks and cable outlets. Businesses can use vlogs to provide product demonstrations and targeted commercials. Ask yourself: Could we increase customer communication and marketing using vlogs?

PODcasting

PODcasting is a method of publishing sound files to the Internet, allowing users to subscribe to a feed and automatically download new audio files to their device whenever they are connected. PODcasting allows individuals to easily transmit audio content worldwide without the need for expensive equipment, licenses, or a radio station. Users connect a portable player like an iPod to their computer, go online, subscribe to feeds they want to receive and the content is then pushed to them and downloaded to their player whenever they are on-line. Businesses could use PODcasting to provide news about their company or industry, or announce new products or services. Ask yourself: Could we increase customer communication and marketing using PODcasting?

RSS (Real Simple Syndication)

RSS is a way to syndicate any Web-based content that can be broken into pieces and distributed via the Internet. RSS content is published as a feed that anyone can access by setting (**continued on page 2**)

Capturing the Intangible (contd. from p. 1)

up a feed on their net-enabled device, such as a laptop or cell phone. Instead of searching Web sites for news and information, the news you select will automatically come to you. Ask yourself: Could we use RSS to keep our customers, suppliers and employees informed of our latest news and information?

TECHNOLOGY NEWS HIGHLIGHTS**SPEED READING SOFTWARE**

Lawyers, journalists, and other professionals who regularly pore over volumes of text looking for specific information will be relieved to hear about a new software application that is designed to help navigate documents automatically. Called JUMP!, the software scans text and automatically generates an alphabetical map of the subjects contained in it. Unlike the "find" function in most word processors, the user cannot only locate key terms, but also see the context in which they are used. JUMP! even resolves pronouns and acronyms. For example, it recognizes when "CEO," "Chief Executive Officer," and "he" are referring to the same person and organizes the content accordingly.

For information: Corpora Software, 1 Farnham Road, Guildford, Surrey, GU2 4RG, United Kingdom; phone: +44 1483 549 055; Web site: www.corporasoftware.com

HOLOGRAMS BOOST DATA STORAGE DENSITY

Thanks in part to the development of a new "photopolymer," we may soon be seeing optical disks the size of a CD that are capable of storing more than one terabyte (TB) of data. Researchers at a spin-off company of Bell Labs recently demonstrated a prototype of the new technology that uses holographic storage to record data at higher densities than ever before. Unlike current optical disks, which store information only on the surface, holographic storage records through the full depth of the disk, greatly increasing capacity. Instead of encoding one bit at a time, holography also allows a million bits to be recorded and read simultaneously, enabling significantly faster transfer rates of up to 27MB per second. The new storage medium, called Tapestry™, was developed to provide the improved levels of sensitivity and stability needed to support such high levels of performance. In addition, a new manufacturing process called ZeroWave™ will enable cost-effective fabrication of the devices for mass production. The first generation holographic disk, with a capacity of 300GB, is targeted for availability in 2006, with capacities increasing up to 1.6TB by 2009.

For information: InPhase Technologies, 2000 Pike Road, Longmont, CO 80501; phone: 720-494-7420; fax: 720-494-9606; Web site: www.inphase-tech.com

WiMAX GOES MOBILE

Not long ago, WiFi was on the cutting edge of wireless connectivity. More recently, WiMAX promised to revolutionize high-speed wireless Internet by expanding the radius of service up to 30 miles. Today, manufacturers are already looking at leapfrogging these technologies with Mobile WiMAX, also known as WiBRO (short for Wireless Broadband). Based on the IEEE 802.16e standard (which is still being finalized), WiBRO could finally drive the widespread adoption of wireless broadband on a truly global basis. It would allow users to receive data at speeds of up to 15Mb per second while traveling at 75 miles per hour across large geographical areas - fast enough to provide streaming traffic reports, music downloads, and live TV broadcasting simultaneously. The technology could pose a serious threat to cellular services however, since VoIP could be integrated into any WiBRO system. With cooperation from

existing carriers and government support, the first WiBRO system is expected to be up and running in South Korea by April of 2006.

For information: Kitae Lee, President and CEO, Samsung Electronics Co., Ltd. Samsung Main Building, 250 Taepyung-ro 2-ka, Chung-ku, Seoul, 100-742, Korea; Web site: www.samsung.com

TIRED OF MOPPING? CALL IN THE ROBOTS!

There's a new addition to the family of household-friendly robots – Scooba™, the robotic floor washer that vacuums, washes, and dries hard surface floors in just one pass. It was developed by the same company that manufactures Roomba™, the popular robotic vacuum cleaner introduced three years ago. Some of the design issues that needed to be addressed in Scooba's development included preventing the robot from slipping and sliding on soapy surfaces or leaving tracks on a nice clean floor. With those challenges now behind them, the company will be ready to release the robot-mop by early next year at prices ranging from \$150 to \$300, depending on the model.

For information: iRobot Corporation, 63 South Avenue, Burlington, MA 01803; phone: 781-345-0200; fax: 781-345-0201; email: info@irobot.com; Web site: www.irobot.com

BUILDING STRUCTURES ON HUMAN HAIR

Working with a technique called multiphoton-absorption photopolymerization (MAP), Boston College scientists have successfully created three-dimensional polymer structures on a human hair without damaging it. Their results suggest that the same could be true for other biomaterials as well, opening the door for a host of possible applications. When using MAP, polymers are deposited at the focal point of a laser beam. By moving the beam in a desired pattern, intricate, three-dimensional structures can be formed with features that are 1000 times smaller than a human hair. Future applications for this technology might include making devices that attach directly to specific cells to deliver drugs or to monitor their function.

For information: John Fourkas, Boston College, Chemistry Department, Merkert Center 224, 140 Commonwealth Avenue, Chestnut Hill, MA 02467; phone: 617-552-3611; email: john.fourkas.1@bc.edu; Web site: <http://chemserv.bc.edu/>

PHOTOGRAPHIC LENS REQUIRES NO GLASS

Researchers in Quebec have developed a new lens that could revolutionize photography by eliminating the need for ground glass lenses. The new lens consists of a thin sheet of liquid crystals mixed with a light-sensitive compound. When exposed to a laser beam, the center of the lens becomes denser than the edges. Small electrical charges then allow the lens to adjust focus and zoom. Five times thinner than a sheet of paper, the new lens design could potentially eliminate the need for multiple bulky glass lenses. Compared to digital zoom, picture quality is also greatly enhanced.

For information: Tirgran Galstian, Department of Physics, Pavillon Alexandre-Vachon, Local 3644, Universite Laval, Quebec, Canada G1K 7P4; email: tigran.galstian@phy.ulaval.ca; phone: 418-656-2131; fax: 418-656-2623; Web site: www.phy.ulaval.ca

LISTEN UP!

A new algorithm that separates multiple voices in recordings may help make “babble” more comprehensible for historians, lawyers, and anyone else who relies on recorded conversations for important information. Typically when recording a conversation, either each individual is equipped with a separate microphone, or voice profiles of each speaker are required to reliably separate overlapping voices.

But the process developed by researchers at UC Berkeley uses spectrogram analysis of intensity and frequency over time to divide up the sound signals among the participants. If parts of the spectrogram are similar with regard to pitch, tempo and timber, or if they exhibit similar patterns over time, it is assumed that they are from the same person. The algorithm then assigns a relative importance to each characteristic and applies the "rules" it has developed to voice recordings. The system has successfully separated overlapping voices of two speakers in several recordings, making each more intelligible to the listener.

For information: Francis Bach, University of California-Berkeley, Berkeley, CA 94720; email: fbach@cs.berkeley.edu; Web site: www.berkeley.edu

TURNING WATER INTO FIRE

The world's first in-home hydrogen appliance recently hit the market - a hydrogen-burning fireplace that utilizes water as fuel. The Aqueon™ uses electrolysis to produce hydrogen. Passing an electrical current through the water separates the hydrogen and oxygen atoms. The hydrogen is immediately ignited to produce the flame and the oxygen is either added to the flame to enhance color and brightness, or released into the room. Unlike traditional wood or gas fireplaces, Aqueon produces no harmful byproducts, so it needs no chimney or vent. It can be started by switch or remote control

For information: Heat & Glo, 20802 Kensington Blvd., Lakeville, MN 55044; phone: 888-427-3973; email: info@heatnglo.com; Web site: www.heatnglo.com

GLUCOSE-SENSING CONTACT LENSES

A new type of sensor may soon make it possible for diabetics to test their blood sugar with their contact lenses. The revolutionary devices were developed by U.K. researchers and incorporate holograms that have been engineered to respond to changing glucose levels in the body. The holograms, which basically consist of a polymer film printed with a layer of dots, are coated with a synthetic substance that binds to sugar molecules. This causes the hologram to absorb water and swell, altering the wavelength of the light it reflects. A small infrared camera is used to analyze the changes and determine whether insulin is needed. This painless method of glucose testing will likely lead to better compliance on the part of patients. In comparison to traditional finger prick tests, early results have also shown it to be up to 50 percent more accurate. The developers also plan to commercialize similar devices for monitoring infectious diseases such as anthrax and smallpox.

For information: Smart Holograms, 291 Cambridge Science Park, Milton Road, Milton, Cambridge, CB4 0WF United Kingdom; phone: +44 1223 393400; fax: +44 1223 393401; Web site: www.smartholograms.com

VIRTUAL EXCHANGE

Massively multi-player online games (MMOGs) have spawned a whole new market for "virtual" merchandise. Instead of spending hours searching for loot or building a character's virtual powers, players can purchase whatever they need through online exchanges. However, bait-and-switch tactics as well as non-delivery of items purchased have underscored the need for a more secure marketplace for these transactions. As a result, Sony has introduced the Station Exchange, an auction service that allows players to buy and sell their goods and characters without fear of being taken for a virtual ride. Controlling the transfer of goods safeguards buyers from fraudulent sellers. Sony also processes the credit card transaction, assessing a 10% fee for the service.

For information: Sony Online Entertainment, Inc. 8928 Terman Court, San Diego, CA 92121; phone: (858) 577-3100; email: pr@soe.sony.com; Web site: <http://stationexchange.station.sony.com>