

TECHNOTRENDS®

Newsletter

Published by Burrus Research Associates / www.burrus.com

January, 2005

Vol. XXI, No. 1



RSS Opportunities

**By
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We all like to keep up with the news that interests us, and the Internet has opened the door to amazing numbers of specialized news sources, all at the click of a mouse. It is not uncommon for people to visit ten or more of their favorite sites several times a day. The problem is, that takes time. A technology called RSS, which stands for Really Simple Syndication, is fast changing that problem by opening the door to a new and powerful way to quickly collect targeted information from a wide variety of sources. Netscape originally developed the RSS technology as a tool for building portals containing headlines and links to mainstream news sites. For example, if you want to build a Web page that contains headlines from multiple sources, such as *USA Today*, *The New York Times*, *CNN.com*, and a host of others, RSS is a very good way of doing it.

Creatively Applying Technology

RSS was originally designed for distributing headlines, short text excerpts, and links to Web pages. As with any new technology, people look at the intended use and ask: What else can I do with it? In this case, RSS quickly became a new and powerful way to distribute any Web content that can be broken into pieces and distributed via the Internet. To get started, first you subscribe to a feed on your favorite site and its headlines are automatically downloaded to an RSS reader on your computer desktop. All you have to do is select the specific information you would like to receive from any number of Web sites and have it delivered automatically to your computer desktop whenever you are online. In addition to news, you may want to track several auctions on eBay, and a UPS shipment. By setting up an RSS feed on your computer desktop, you can have all of this and more sent directly to your desktop. A quick way to see how this works is to go to My Yahoo!, a personalized service that is free to any registered user of Yahoo! To set up your own customized RSS feed, click on the "add Content" link on the main page of My Yahoo! You can use the feeds Yahoo has already set up for you, or you can customize your own.

Multimedia RSS

Given the wide use of bandwidth, it won't be long and we will see RSS used as a vehicle to distribute large multimedia files. For example, you may subscribe to a multimedia RSS feed that sends you the file over a period of hours, depending on the size of the file, while you are working on another project. When it is finished downloading, you will be notified and can view the file. Ask yourself: How could I use RSS to cut the time I spend searching for news on the topics I want to know about on a regular basis? How could our company use RSS to keep up with the latest information from our industry? Could our company use RSS to keep our customers abreast of new products or services?

TECHNOLOGY NEWS HIGHLIGHTS

SCANNING DOCUMENTS WITH YOUR CELL PHONE

Xerox researchers recently announced two new applications designed to transform cell phones into portable document imaging systems. The first application is portable document scanning software that allows digital cell phone cameras to capture high quality images even in less than optimal conditions, such as poor lighting. The highly compressed images are stored in Group 4 fax format and can be transmitted wirelessly via Bluetooth. The second application is designed to automatically categorize images according to content. Such a program also has the potential to greatly improve the quality of image search results on corporate intranets or on the Web.

For information: Web site: www.xrce.xerox.com

DATALOGGER FOR YOUR CAR

Ever wonder just how your teenager drives when he or she borrows the family car? A new device is now available that allows you to keep track of various driving parameters and download them to your computer. Called CarChipE/X, the system is designed to log any four parameters (out of 23 available) at 5- to 60-second intervals, for up to 300 hours of driving time, or up to 18,000 miles. Parameters measured include speed, distance, acceleration, deceleration, and engine diagnostics. The system also includes an accident log that records the last 20 critical seconds of speed data. The device plugs into the on-board diagnostics connector (OBD II) located under the dashboard of most cars built within the last ten years, and also connects to the serial port or USB port of a PC. The software is compatible with Windows 95 or later versions.

For information: Davis Instruments Corporation, 3465 Diablo Avenue, Hayward, CA 94545; phone: 510-732-9229; fax: 510-670-0589; Web site: www.davisnet.com

SPINNING NANOTUBES INTO YARN

A group of researchers recently announced a major breakthrough in textile technology: Yarns made solely from carbon nanotubes, using an ancient technique of twist-based spinning. The potential uses for such yarns are many. Their mechanical strength makes them an excellent choice for bulletproof vests and body armor. Electronics, such as medical sensors, can easily be incorporated into the yarn. The unique yarn could even be used to produce garments with built-in “muscles.”

For information: Ken Atkinson, CSIRO Textile and Fibre Technology, P. O. Box 21, Belmont, VIC 3216, Australia; phone: +61-3-5426-4803; email: ken.atkinson@csiro.au; Web site: www.tft.csiro.au

UNEXPECTED BENEFITS FROM “BIONIC” EYE

Recently completed clinical trials of a retinal implant for treatment of retinitis pigmentosa (RP) revealed some eye-opening results – damaged areas of the retina had actually started functioning again. In the study, two-millimeter-diameter silicon chips containing 5,000 microphotodiodes were implanted into the retinas of patients. The purpose of the chips is to replace damaged photoreceptors by producing pixelated images and sending electronic signals to the retina. The test patients reported improvement in perception of brightness, contrast, color, shape, resolution, and field size, with no signs of rejection, infection or detachment. In addition, these same functions were restored in retinal areas that were not in close contact to the implants. The researchers are hopeful that the microchips can also be used to treat other eye disorders, such as age-related macular degeneration (AMD). RP and AMD are degenerative eye diseases that affect approximately 30 million people worldwide.

For information: Optobionics Corporation, 850 East Diehl Rd., Suite 120, Naperville, IL 60593-9386; phone: 630-245-6000; fax: 630-245-0601; Web site: www.optobionics.com

WHAT A SWELL IDEA!

Small pills have the advantage of being easier to swallow for many people, but there are also distinct drawbacks. When pills pass through the stomach too quickly, they are not always adequately absorbed. In the case of drugs like antibiotics, pills that pass into the intestinal tract can kill off beneficial bacteria, causing diarrhea and other side effects. But one drug manufacturer has developed a drug-delivery solution that keeps pills in the stomach longer, thus enabling the medication to be released over a longer period of time. By mixing specific polymers together with a medication, the researchers developed a pill that starts out the size of an aspirin but swells to the size of a nickel once it comes into contact with gastric fluids in the stomach. It takes about six to eight hours for the pill to pass into the intestine, so that the medicine can be released more slowly and steadily in the stomach, where it is absorbed best. Another benefit might be that medications could be taken at longer intervals (for example, once a day instead of two or three times a day). The first version of the polymeric pill will contain a diabetes drug. Testing is also under way on medications for pain, seizures and urinary tract infections.

For information: Depomed, Inc., 1360 O'Brien Drive, Menlo Park, CA 94025; phone: 650-462-5900; fax: 650-462-9993; Web site: www.depomedinc.com

ONBOARD NAVIGATION WITH TRAFFIC UPDATES

A new system called XM NavTraffic is the first satellite-based traffic information service to combine GPS navigation with current traffic and road conditions. The system uses color-coding to indicate traffic flow speeds along major highways. Accidents or road construction are indicated by icons at their locations. Additional information, including the expected duration and which lanes are affected, is also available. XM NavTraffic synthesizes information from multiple sources, such as commercial traffic data centers, government transportation departments, police and emergency services, road sensors, cameras, and traffic surveillance aircraft. Its design also will allow it to be integrated into other navigation platforms.

For information: XM Satellite Radio, 1500 Eckington Place NE, Washington, DC 20002; phone: 202-380-4000; fax: 202-380-4500; Web site: www.xmradio.com

SOLAR CELL STORES ITS OWN ENERGY

Japanese scientists recently announced the successful development of the first photocapacitor device that not only converts solar energy into electricity, but stores the power for later use. Traditional solar cells require a separate device, such as a battery, to act as a storage medium. The photocapacitor consists of three layers. The receptor layer is made of titanium dioxide coated with photoreceptor dye molecules that produce electrons when exposed to light. These electrons are transferred to a counterelectrode made of platinum-coated glass via a circuit. Within each electrode are porous layers of activated carbon separated by a resin film, and all three layers are filled with an ionic solution. As the layers accumulate positive and negative charges, the device forms a capacitor from which the energy can be released anytime, simply by discharging the device. Unlike traditional silicon-based solar cells, the new photocapacitor is sensitive enough to utilize indirect light (as on cloudy days), and even indoor light.

For information: Tsutomu Miyasaka, Toin University of Yokohama, 1614 Kurogane-cho, Aoba-ku, Yokohama 225-8502, Japan; phone: +81-45-972-5881; fax: +81-45-972-5968; Web site: www.cc.toin.ac.jp

SPINAL DISC IMPLANT RECEIVES FDA APPROVAL

The first artificial spinal disc to receive FDA approval, the Charite Artificial Disc, is designed to help some of the 200,000 people who undergo spinal surgery each year for lower back pain. The discs in the lower back serve to cushion the spine. As they wear, movement is restricted and nerves in the spinal column can become pinched. The most common remedy of fusing the vertebral bones together, which helps to alleviate the pain, unfortunately immobilizes the joint and limits range of motion. Made from polyethylene plastic sandwiched between plates of cobalt-chromium alloy, the Charite disc uses a modified ball and socket to allow for greater flexibility. It can be inserted in place of a damaged disc in as little as one hour, and patients have reported relief within days.

For information: DePuy Spine, Inc., 325 Paramount Drive, Raynham, MA 02767; Web site: www.charitedisc.com

SHATTER-RESISTANT CERAMICS

Scientists at Berkeley Labs are working on ways to make ceramics tougher, a breakthrough that would make them far more useful as structural materials. Advanced ceramics are made more durable by adding rare-earth metals that bond to the grains of the ceramic (a process called sintering). Using a Scanning Transmission Electron Microscope and a chemical analysis technique called electron-energy-loss-spectroscopy, the researchers have been able to examine, for the first time, the atomic bonding configurations of various rare-earth additives to determine how they affect ceramic strength. The goal is to be able to tailor materials for specific applications based on the required mechanical properties. The initial research focused on ceramic candidates for gas turbine engines, which burn fuel at temperatures much higher than metals can tolerate (1200°C or 2192°F). The higher operating temperatures improve engine efficiency and reduce greenhouse gases.

For information: Robert Ritchie, Lawrence Berkeley National Laboratory, 1 Cyclotron Road, Mail Stop 62R0203, Berkeley, CA 94720; phone: 510-486-5798; fax: 510-486-4995; email: roritchie@lbl.gov; Web site: www.lbl.gov

AIR CANNON THAT DELIVERS PUFFS OF SCENT

Japanese researchers have developed a new tool that could add a unique dimension to virtual reality interfaces: An air cannon that delivers puffs of scent with pinpoint accuracy. The system uses a CCD camera and computer to track the targeted person. Video images are analyzed to determine the location of their nose, and the air cannon is aimed for delivery. Up to ten different aromas can be loaded into the chamber, and the smells can be delivered up to 2 meters away via a vortex of air. Applications for the device include televisions that deliver scents depending on what is displayed on the screen, such as flowers or cooking aromas. It could also be used to devise a system that keeps drivers from nodding off at the wheel.

For information: Yasuyuki Yanagida, Advanced Telecommunications Research Institute, Kyoto, Japan; Web site: www.mis.atr.jp

WORLD'S SMALLEST HARD DRIVE

The big news in hard drives is SMALL, and Toshiba's new .85-inch version beats the previous record holder by .15 inches. Designed for high-capacity, portable devices like cell phones, GPS units, digital cameras, and music players, the tiny new drive packs in a lot of data with a storage capacity of 2 to 4 GB. It's also rugged enough to stand up to the job, withstanding shocks of up to 1000 Gs, nearly five times that of its larger predecessors. Initial applications will likely include music player/cell phone combo units, which are expected to hit the market this year.

For information: Toshiba, Storage Device Division, 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan; Web site: www.toshiba.co.jp