

TECHNOTRENDS®

Newsletter

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New Tools For Advertising (Part 4)

**By
Daniel Burrus**

The foundation for the new world of advertising we are now entering contains five key areas: personalization, community, intelligent multimedia search, content, and interactivity.

Personalization

Would you be more interested in an ad that addresses your specific needs and interests? The Internet allows for ever increasing ways to target and create personalized experiences and ads. For example, Yahoo! allows visitors to create a customized home page – MyYahoo – enabling them to quickly see the information and news feeds they are the most interested in. This gives Yahoo! the ability to know the specific interests and needs of each individual and provide ads they would *want* to see. Ask yourself: Could we use targeting and personalization to introduce a new product and grow brand loyalty?

Communities

Communities of interest reside on a Web site and have members who share a common interest. Examples include customers who are interested in or have all purchased the same product. Purina has an on-line community for both dog owners and cat owners. It provides expert advice and creates a place where dog or cat owners can enter a community of other dog or cat owners to share information. They can then target their ads to the specific needs of the group. Every day, eight million pet lovers visit the community of their choice. Ask yourself: Could we enhance customer interest in our products or services if we hosted electronic communities of interest?

Intelligent Multimedia Search

Intelligent Multimedia Search gives you the ability to search the Internet, or your computer, for text, graphics, video, animation, and sound, using simple commands. When we search the Web today, we often get way too much information. Intelligent search uses software to help the user narrow the search down to find exactly what they are looking for. It also allows them to use natural language or simple questions to find what they are looking for. Users could search their computer, their network, or the entire Internet for a segment of a video or audio recording, and retrieve it quickly. Ask yourself: Could we use search to help consumers solve problems and find product information, including photographs, audio, and video, faster?

Content

Content can exist in any format including text, audio and video. Television shows, sports events, concerts, blogs, and PODcasts are all examples of content. In the past, professionals created all of the content. Today, individuals of all ages have the technology to create their own content. Ask yourself: Could we use different forms of content, produced by both professionals and individuals, to create interest in our products?

Interactivity

In the past, advertising was static, users would sit back passively and read or watch an ad. Today, people are interacting with digital content, clicking on icons, moving things around, playing games, adding content and in some cases creating their own content. Interactivity is the best way to get consumers engaged in the ad and engagement is a key to creating a positive outcome – action. Ask yourself: Could we we add interactivity to our ads?

A new world of advertising is dawning and the new tools are available to all. If you don't use them, someone else will!

TECHNOLOGY NEWS HIGHLIGHTS

WORLD'S FASTEST STREAMING VIDEO

US San Diego and Keio University recently collaborated to establish the fastest IP network yet, capable of streaming super-high definition (SHD) 4K digital video, pre-recorded or real-time, even over long distances. The two sites were linked via approximately 9000 miles of optical fiber carrying nearly six hours of video, at a whopping 6 Gigabits per second. The images, with roughly 4000 horizontal pixels, offer a resolution that is 24 times that of standard broadcast TV signals. Such advanced visualization and communication networks will undoubtedly find application in science, medicine, and education as well as entertainment in coming years.

For information: University of California San Diego, Chancellor's Office, 9500 Gilman Dr., MC 0005, LaJolla, CA 92093-0005; phone: 858-534-3135; Web site: www-chancellor.ucsd.edu Keio University, Office of the President, Mita Campus, 2-15-45 Mita, Minato-ku, Tokyo, 108-8345 Japan; phone: +81(3)-5427-1627; fax: +81(3)-5427-1626; Web site: www.pre.keio.ac.jp

MORE EFFICIENT NANO SOLAR CELLS

Researchers have been looking to nanotechnology for an inexpensive way to manufacture solar cells, however, their efficiency in converting sunlight to electricity has been poor. This is partly due to the fact the electrons have to travel from one nanoparticle to another in order to reach the external circuit, and some of them get "left behind" in the process. Recently scientists found that using nanowires instead of individual particles makes the cells about 100 times more efficient at transferring the electrons. The wires are grown in crystal arrays using zinc oxide dots in a solution of zinc oxide. Although the light-converting efficiency is still not adequate to make them viable as a source of energy, this is an important step in achieving a cost-effective alternative to silicon-based cells.

For information: Peidong Yang; University of California Berkeley, 868 Hildebrand Hall, Berkeley, CA 94720-1460; phone: 510-643-1545; fax: 510-642-4461; email: p_yang@berkeley.edu; Web site: www.cchem.berkeley.edu

ULTRALIGHT NANO FABRIC

Researchers in Texas and Australia have discovered a new way to combine carbon nanotubes into useful structures. First, trillions of the tiny tubes are coaxed into forming long "ropes." The resulting fibers are then merged into strips to create a fabric-like material that is so light, an acre-sized piece could weigh as little as four ounces. Potential applications include thin light-emitting displays, artificial muscles, and space sails for satellites. Prototype products could be available as early as next year.

For information: Ray Baughman, University of Texas at Dallas, P. O. Box 830688, Richardson, TX 75083-0688; phone: 972-883-6530; email: ray.baughman@utdallas.edu; Web site: www.utdallas.edu

"FLEA" RESIN CREATES NEAR-PERFECT RUBBER

Scientists recently discovered that the same elastic protein which gives fleas their incredible jumping ability may have potential applications in medicine and industry to produce high-efficiency rubber. Called resilin, it is the most efficient elastic protein known and possesses an unparalleled capacity to bounce back when stressed. This makes it an ideal candidate for use in many applications from artificial heart valves to running shoes. It is also extremely durable, making it suitable for things like spinal disc implants which need to withstand millions of

extension and contraction cycles over the course of a lifetime. The material they developed was measured using an atomic force microscope and displayed a 97 percent recovery, as compared to elastin (a human protein found in skin, blood vessels, tendons, ligaments, and other organs) which tested at 90 percent, and “superballs” which came in at 80 percent.

For information: Chris Elvin, CSIRO Livestock Industries, Queensland Bioscience Precinct, 306 Carmody Road, St. Lucia, QLD 4067, Australia; phone: +61-7-3214-2506; fax: +61-7-3214-2900; email: chris.elvin@csiro.au; Web site: www.csiro.au

MICE REGENERATE THEIR OWN BODY PARTS

A fortuitous discovery at the Wistar Institute has researchers wondering if it may someday be possible for humans to regrow their own body parts. While studying mice that had been bred to develop lupus, holes were pierced in their ears to distinguish them from a control group. What was so unusual, however, was that the holes quickly healed, leaving no sign of a scar. This shifted their focus to studying the regenerative capabilities of the genetically altered mammals, and they found similar results when other external body parts, and even internal organs, were damaged. Further work is underway to isolate the specific genes that play a role in regeneration, but the information gathered should also provide new insights into healing mechanisms of mammals in general.

For information: Ellen Heber-Katz, Wistar Institute 3601 Spruce Street, Philadelphia, PA 19104; phone: 215-898-3710; email: hererkatz@wistar.org; Web site: www.wistar.org

SAFER PLANES

The presence of smooth airflow over the wings of a plane is what provides the lift needed to keep it airborne. But when small aircrafts turn too tightly or fly too slowly, the airflow can be interrupted, causing the plane to stall and even crash. Recently, an engineer discovered that applying current-generating piezoelectric film to the wings helps maintain the airflow. The electric current causes the film to vibrate, producing sound that keeps the airflow intact. At a tone of about 400 Hertz, lift was increased by 22 percent.

For information: Ian Salmon, Qantas Airways Ltd., Engineering and Maintenance, Qantas Centre, 203 Coward Street, Mascot, NSW 2020, Australia; phone: +61(2)-9691-3636; Web site: www.qantas.com

MOLECULAR COMPUTER SWITCH

Canadian scientists recently reported building a transistor out of a single molecule – a breakthrough that could pave the way for tiny, ultrafast computers of the future. The researchers placed a molecule on a silicon surface containing atoms with an extra electron. By changing the charge of one of those atoms, they were able to switch the current flowing through the molecule on and off. The ability to control the flow of current at a molecular level offers tremendous advantages over today’s transistors, since it is much faster and requires far less power.

For information: Robert Wolkow, National Institute for Nanotechnology, 6th Floor, ECERF University of Alberta, 9107 116th Street, Edmonton, Alberta, T6G 2V4, Canada; phone: 780-492-8888; fax: 780-492-8632; email: nintinfo@nrc.gc.ca; Web site: www.nrc.gc.ca

SEMICONDUCTORS THAT BEND LIKE PAPER

A leading supplier of semiconductor manufacturing systems has developed a way to polish silicon wafers down to a thickness of only 5 microns, making it feasible to produce bendable microchips. In comparison to current

chips which are 75 microns at the thinnest, the new technology could also drastically reduce the size and weight of devices that contain multiple chip layers, such as cell phones and PDAs. The wafers are cut after the circuitry has been etched, and are initially ground to 10 microns using diamond whetstones. Then, using carefully controlled concentrations of silicon oxide, polishing agents, and cleaning fluid, they are polished to produce wafers so thin that some wavelengths of light will pass right through them.

For information: Accretech, Dougin-chitose, Bldg. 2F, 4-1, Chiyoda-cho, Chiose-shi, Hokkaido 066-0062, Japan; phone: +81 (123) 40-9121; fax: +81 (123) 40-9122; Web site: www.accretech.jp

“BUBBLES” SPEED UP BLOOD TESTS

A new way of mixing blood may make it possible for clinicians to perform blood tests on the spot, right in the office. The process uses sonic vibration to speed up the interactions between the sample and the reagents, enabling faster diagnosis. Small oscillations are generated by a piezoelectric crystal, and act on tiny bubbles surrounding the sample. The result is a circular flowing motion that mixes the blood with the reagents quickly and thoroughly. In addition to providing faster results, the technique offers the additional advantage of requiring only a single drop of blood to perform a full diagnostic test rather than several tubes.

For information: Richard Manasseh, CSIRO Manufacturing and Infrastructure Technology; phone: +61-3-9252-6340 Everard Hunder, CSIRO Manufacturing and Infrastructure Technology; phone: +61-3-9252-6439; email: everard.hunder@csiro.au; Web site: www.csiro.au

VOICE OVER WI-FI

Several manufacturers have combined the cost-saving feature of Internet telephone (VoIP) with the mobility of Wi-Fi to develop an array of products that could render traditional office phone systems obsolete. Like VoIP, the new technology (known as VoWi-Fi) uses the Internet to transmit phone calls, but the Wi-Fi component eliminates the wires so employees can have access to their phone wherever they go. It can be integrated with existing wired phones and also offers better indoor coverage than conventional cellular service.

For information: Meru Networks, 1309 S. Mary Avenue, Sunnyvale, CA 94087; phone: 408-215-5300; fax: 408-215-5301; Web site: www.merunetworks.com

SpectraLink, 5755 Central Avenue, Boulder, CO 80301; phone: 303-440-5330; fax: 303-440-5331; Web site: www.spectralink.com

Azulstar New Mexico, LLC, 1117 Rio Rancho Blvd., Suite #13, Rio Rancho, NM 87124; phone: 877-AZULSTAR; Web site: www.azulstar.com

LCD KEYBOARDS

Several companies are getting ready to introduce keyboards with keys that can be programmed to change functions as needed. Each key consists of a miniature LCD that can display letters in different languages, or be customized for other specific commands. The LCD-based keyboards should start hitting the market late this year.

For information: iKeyInfinity; email: info@ikeyinfinity.com; Web site: <http://ikeyinfinity.com>
Art.LebedevStudio, 5Gazetnyper.Moscow, Russia 125993; phone: +7-095-540-1800; Website: www.artlebedev.com
United Keys, Inc., 434 S. First Street, San Jose, CA 95113; phone: 408-779-8646; fax: 408-779-5557; Web site: www.unitedkeys.com