

TECHNOTRENDS[®]

Newsletter

Published by Burrus Research Associates / www.burrus.com

May, 2005

Vol. XXI, No. 5



Capturing the Intangible

By
Daniel Burrus

As the technology change curve becomes steeper, ever increasing numbers of entrepreneurs will focus on developing innovative processes, services and products to both create and drive growth on a global basis. Capturing and protecting intellectual property (IP) is a major key to success; however, entrepreneurs all too often fail to adequately protect the results of their creativity. Protecting your IP

basically provides you with a type of market monopoly to make, sell, use, import, export and license your property.

Protecting Value

How valuable is protecting your IP? If your IP has value in the marketplace, then the monopoly IP protection provides will have a similar value times the length of the monopoly. Intellectual property may be protected in a number of ways, depending on its nature. Knowledge-based competitive advantages like trade secrets are best protected by documents such as confidentiality agreements and employee contracts. Patent and design registrations can only be gotten for products that are not in the public domain, so confidentiality agreements are essential to obtain. If the advantage of your product is its function, the best way to protect it is with a patent. Patents can also protect concepts, including software and business plans. If the look of the product is your advantage, you should get a design registration that protects shapes and patterns. Brands, including words, shapes, sounds, logos and colors, can be protected with a trademark. Some examples of the above include: secret ingredients like spices and herbs that would be covered under a trade secret; a special embossing on a surface would be covered by a design registration; the shape of a product, if unique and distinctive, could be protected by a trademark; or a distilling process for a beverage could be covered by a patent.

Mining Your IP

IBM, long an international leader in patent creation, reviews its unused patents and licenses them to other companies, including competitors, adding \$1 billion to their bottom line. Dell is another good example. It has patents around its built-to-order process and has cross-licensed its patents to IBM in a \$16 billion deal. IBM gained access to Dell's patented business processes and Dell gained access to IBM's patented integrated circuits. Your protected IP can also be marketed to a complementary market or an entirely different industry that might benefit from applying your process to a completely different product or service. Before you begin, develop an IP strategy based on your long-term objectives. Consider your competitive advantages, business strategies, existing IP, third-party relationships, internal resources and exit strategies. Opportunity to both create and protect IP has never been greater. The time to start is today.

TECHNOLOGY NEWS HIGHLIGHTS

VIDEO SEARCH ENGINE

The aim of a new Internet search engine is to permit users to explore video on the Web using mobile phones, PDAs or any other digitally networked device. A free plug-in for Mozilla Firefox, Annodex™ uses a new technology called Continuous Media Markup Language (CMML), which allows video content to be searched, navigated, and queried, similar to the way that HTML enables searching of text. Currently available tools work by searching only on closed-captioning text. The results they provide typically include an excerpt from the text and one still image. Annodex provides a complete summary, along with interactive video clips and links to other related material. A graphical authoring tool includes the metadata and captioning needed to make the material searchable. The download is available at www.annodex.net

For information: Silvia Pfeiffer, CSIRO, Macquarie University Park, Building E6B, North Ryde, NSW 2113 Australia; phone: +61-2-9325-3141; fax: +61-2-9325-3200; email: silvia.pfeiffer@cmis.csiro.au; Web site: www.cmis.csiro.au

“BLOGGING” MADE SIMPLE

Software programs have been designed to help users design their own blogs, or Web logs, which have become popular forums for conveying information. Unfortunately, many of the programs require some knowledge of Web programming in order to incorporate multimedia features. Soon, two new software tools will make it easier for would-be bloggers to create sophisticated Web logs without possessing any knowledge of HTML. One of the new tools is Buibbler™, which uses drag and drop icons, allowing users to post photos, audio and video, as well as Word, Excel, PowerPoint and Adobe PDF documents quickly and easily. Hyperlinks can be inserted without the need for HTML code, and a "court reporter" mode allows instant-messages to be displayed immediately on the screen. The second new tool, called Vlog It!™, is designed specifically for users who want to create a video blog, or vlog. It requires no video-editing experience and comes with a library of graphics, effects, and TV-style titles. The video plays back in Windows® Media Player or Real Player® formats so that it can be viewed by Internet users around the world.

For information: Five Across, 3200 Park Blvd., Palo Alto, CA 94306; phone: 650-320-8454; fax: 206-350-8460; email: info@fiveacross.com; Web site: www.fiveacross.com Serious Magic, Inc., 101 Parkshore Drive, Suite 250, Folsom, CA 95630; phone: 916-985-8000; fax: 916-985-8095; Web site: www.seriousmagic.com

“ROBO-RATS” SNIFF OUT EXPLOSIVES

Small animals, like rats, are ideal for certain types of jobs because they can get into lots of places that are too tiny for people or even larger animals, like dogs. With that thought in mind, neuroscientists at SUNY Downstate Medical Center are now training rats to do important work; namely, to sniff out bombs and signal the home base when they "smell a rat." The movements of the "rats-in-training" are guided by a remote control and electrodes implanted within the brain to stimulate the right or left whisker centers. A camera mounted on the back of the rat enables the remote operator to see where it is going and what it has found. But getting the rat to actually identify explosives or toxic chemicals, and report back to the operator, is a slightly more complex task. The SUNY researchers have already taught the rats to identify the scent of plastic explosives. Their next goal is to get them to press a button when they smell a bomb.

For information: John Chapin, SUNY Downstate Medical Center, 450 Clarkson Ave., DMS Box 31, Brooklyn, NY 11203; phone: 718-270-2767; Web site: www.hscbklyn.edu

BIO-PHARMING TO MAKE INSULIN

Diabetes affects more than 200 million people worldwide, and demand for insulin – the life-saving drug used to treat the disease – is expected to quadruple over the next decade. In order to meet future demand, Canadian scientists are studying "bio-pharming," which is the use of plants to synthesize pharmaceuticals, vaccines, and antibiotics. In experiments, the human insulin gene was inserted into the tissue of a relative of the canola plant. When the seeds were harvested, the insulin proteins were separated from the plant oils and tested on animals. The results of the bio-pharmed insulin were identical to those achieved with human insulin. Clinical trials are expected to begin in 2006.

For information: SemBioSys Genetics, Inc., #110, 2985-23rd Avenue, N.E., Calgary, Alberta T1Y 7L3 Canada; phone: 403-250-5424; fax: 403-250-3886; Web site: www.sembiosys.com

FAT-FIGHTING PROTEIN

Researchers in Japan recently published new findings with regard to the therapeutic effects of a naturally occurring protein called angiopoietin-related growth factor (AGF), which is secreted by the liver. Early studies focused on AGF's ability to help heal injuries. In later tests, it was noted however, that mice lacking the genes for developing AGF became extremely overweight and developed diabetes. On the other hand, mice that were modified to produce large amounts of ADF did not become obese, even on a high-calorie diet. The findings could potentially lead to new treatments for diabetes and obesity in humans.

For information: Astellas Pharma, Inc., 3-11, Nihonbashi-Honcho, 2-chome, Chuo-ku, Tokyo 103-8411 Japan; phone: +81-3-244-3000; Web site: www.astellas.com

WORLD'S FASTEST TRANSISTOR

Researchers at the University of Illinois have developed the fastest transistor yet, operating at a record speed of 604 gigahertz (GHz). This is in comparison to current Pentium microprocessors, which run at only 50 to 100 GHz. (One GHz is equal to one billion cycles per second.) Normally, to increase the speed of transistors it would be accomplished by raising the operating voltage and forcing current through the semiconductor layers more rapidly. However, the increased voltage generates more heat, which not only wastes power, but it can destroy the chip in the process. The Illinois engineers got around this problem by varying the composition and thickness of the collectors. As a result, the electrons pass through more quickly and with less resistance, enabling the new transistor to run cooler.

This development could pave the way for transistors that operate at the terahertz (one trillion cycles per second) level. Such devices would have the potential to transform many technologies, including medical scanning, communications and surveillance.

For information: Walid Hafez, University of Illinois, Electrical & Computer Engineering, 278 Micro&Nano Lab, MC 249, 208 N. Wright, Urbana, IL 61801; phone: 217-244-3662; email: wjafex@express.cites.uiuc.edu; Web site: www.uiuc.edu

THE NEW WAVE IN WIRELESS TRANSMISSION

A Japanese innovator has developed a system for creating reliable and secure wireless networks that rely on the steel frames of buildings, water pipes, and even automobiles to function. This technology, called evanescent waves, uses an "exciter" to send signals throughout buildings or vehicles, creating an electromagnetic field that can be used for high-speed communication at speeds of up to 20 megabits per

second. Within a building, the technology can utilize the steel structure, as well as wiring and pipes, as antennas to transmit information between terminals, computers and cell phones. Although the waves decay exponentially with the distance they travel from the source, the developer sees this as an advantage as it eliminates many concerns about information leaks, and also reduces potential sources of interference. The developer's new company is also working on a system that sends electricity from a car battery to its headlights through the body of the car. It will also transmit video signals from a DVD player in the dashboard to a screen in the back seat. In addition, they plan to test the technology for providing broadband Internet access on board moving trains during the 2008 Olympics.

For information: Yoshihiro Hagiwara, Cocomo Mb Communications, Inc., Tokyo, Japan; phone: +81-3-5511-2571; fax: +81-3-5511-2577; email: info@cocomomb.co.jp; Web site: www.cocomomb.co.jp

NEW POLYMER INCREASES LIGHT EFFICIENCY

With white LEDs successfully making their way to the forefront as low-power, high-luminance lighting alternatives, manufacturers are working on maximizing their performance even more. Recently, a new thermosetting plastic material was developed that is expected to improve lighting efficiency, reduce power consumption, and permit more exact control of the amount of light delivered. The new polymer has a refractive index of 1.76 – the highest in the world – which will enhance the luminescence of LEDs by about 30% over existing polymers. The developers have already shown that the addition of other nanoparticle substances will enable even higher refraction rates. In addition, the polymer's excellent thermosetting properties allow it to be molded into various precise shapes for use in photosensitive devices, where the amount of light needs to be accurately controlled.

For information: Nitto Denko Corp., 1-1-2, Shimohozumi, Ibaraki, Osaka 567-8680 Japan; Web site: www.nitto.com

PLASTIC ELECTRONICS

A team of materials chemists at Northwestern University has designed a new material that may bring us one step closer to truly flexible electronic circuits. The new material is a multilayered nanodielectric made of organic molecules that assemble themselves into layers less than 6 nanometers. When used in the dielectric (non-conducting) layer of a transistor, they can be used to produce organic thin-film transistors (OTFTs) that require very little power and are also able to store an electric charge. The technology would make it possible to print electronic circuits quickly and inexpensively using organic molecules as "ink" and plastic as "paper." Applications would include everything from inexpensive RFID tags to electronics for cell phones and computers.

For information: Tobin Marks, Northwestern University, WCAS Chemistry, 2145 Sheridan Rd., Evanston, IL 60208; email: t-marks@northwestern.edu; phone: 847-491-5658; Web site: www.northwestern.edu

COMPUTER "CELLS"

The latest development in computers takes its lead from the human brain. The new "Cell" processor is designed to interoperate with other processors like it (similar to the way brain cells work together) to open up a whole new era for computer processing. The new chip combines 9 individual processors and operates at 10 times the speed of current PC chips. Its flexible architecture will allow it to be used in a variety of applications, from mainframe computers to mobile handheld devices. It's even capable of running multiple operating systems. The first products to receive the new chip are due to be released in 2006 and include the Sony PlayStation 3 and Toshiba high-definition televisions.

For information: IBM Venture Capital Group, 1133 Westchester Ave., White Plains, NY 10604; email: extsub@us.ibm.com; phone: 800-426-4968