



Internet applications, sites, trends and happenings

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This column aims to draw your attention to various interesting Web sites that I have come across and that might appeal to you, and to keep you up-to-date with news and views on Internet trends, developments and statistics. It offers essentially a personal selection rather than comprehensive coverage.

Internet Archive Wayback Machine

The Internet Archive, working with Alexa Internet, has created the Wayback Machine. The Wayback Machine makes it possible to surf more than 10 billion pages stored in the Internet Archive's Web archive. The Wayback Machine is a service that allows people to visit archived versions of Web sites by typing in a universal resource locator (URL) and selecting a date range.

The archive collects Web pages that are publicly available – the ones you come across while surfing the Web. Not all old sites appear in the archive – some sites may not be included because the automated crawlers were unaware of their existence at the time of the crawl. It is also possible that some sites were not archived because they were password protected or otherwise inaccessible to the machine's automated systems (which crawl the Web every few months or so) – they may have been tagged for 'robot exclusion' by their owners. Also, pages that are only accessible when a person types and sends a form or pages on secure servers are not included. They are also not included when a Web site administrator requested removal of the site from the archive.

The original idea for the Internet Archive Wayback Machine began in 1996, when the Internet Archive first began archiving the Web. Given the rate at which the Internet is changing – the average lifespan of a Web page is only 77 days – an effort must be made to preserve it or the information will be entirely and irretrievably lost. Therefore, the Internet Archive is documenting the growth and content of the Internet, using libraries as their model. Alexa Internet, in cooperation with the Internet Archive, designed a three-dimensional index that allows browsing of Web documents over multiple time periods and turned this unique feature into the Wayback Machine. Now, with over 100 terabytes and a dozen Web crawls completed, the Internet Archive has made the Internet Archive Wayback Machine available to the public. The Wayback Machine was unveiled in October 2001 at the Bancroft Library of the University of California at Berkeley and is currently growing at a rate of 12 terabytes per month. Try it for yourself at <http://www.archive.org/index.php>.

Awareness of Wireless Fidelity taking off

Wireless Fidelity or Wi-Fi may still be a new term to many, but tech-savvy consumers in the USA are already using the technology in their homes – with the total number of users

expected to increase by almost 50% over the next six months, according to Ipsos, the global marketing research firm. Ipsos conducted telephone interviews with more than 1000 adults in late January 2003 and found that 41% of respondents were aware of the term Wi-Fi. Of these, more than one-third (38%) was at least somewhat familiar with the technology. Among respondents familiar with Wi-Fi, 13% had a Wi-Fi network at home (representing 3% of the general population). An additional 14% of the respondents aware of Wi-Fi said that they were likely to purchase a Wi-Fi system over the next six months.

As Wi-Fi becomes embedded on new portable devices, prices for Wi-Fi will decline and as consumers become more aware of the capabilities and benefits of Wi-Fi, more people will be drawn to the marketplace. Almost two-thirds (61%) of Americans who had a Wi-Fi system installed (or intended to install one) were using Wi-Fi to connect a PC or laptop to the Internet.

However, while over half of those familiar with Wi-Fi understood its key benefits – namely speed surpassing broadband and ease of home installation – many were concerned or uncertain about home installation cost, as well as network security. Additionally, some 40% were unsure if there was a Wi-Fi access point close enough to their home. These issues pose significant, but surmountable, challenges to increasing market awareness and consumer use.

Earlier Ipsos research has shown that advances in existing technology are quicker to be adopted by the public than new products. Wi-Fi is a hybrid, falling somewhere between Internet access and cellular phone service. As more public areas add 'hot-spots' and more people adopt Wi-Fi in the home, the technology should move beyond its present nascent stage. As new laptops, cellular phones and personal digital assistants (PDAs) include standard Wi-Fi capability, cost will become less of an issue, helping Wi-Fi technology take root in the US. Wi-Fi is poised to become a 'must have' technology for fast and convenient Internet use. Read more at http://www.ipsos-reid.com/media/dsp_displaypr_us.cfm?id_to_view=1750.

Global Internet population grows

Over half a billion people worldwide now have Internet access, according to new research from Nielsen-Netratings. The research company's latest study indicates that 580 million people have Internet access, compared to 563 million in the third quarter of 2002. The 11 major Internet markets measured by Nielsen-Netratings experienced a 4% average increase in on-line population between the fourth quarter of 2001 and the fourth quarter of 2002.

The USA posted the greatest increase in the number of adults on-line over the same period with nearly 10 million people over the age of 16 gaining Internet access. As a percentage of population, however, this number represents a 3% increase for the US, compared to Spain which saw a 22% rise in the percentage of the population on-line. Apart from recording the largest percentage increase of Internet access, Spain also had the biggest percentage increase in most of the Internet activities undertaken by users in the latter half of 2002 with a 6% increase in e-mail use, a 5% increase in looking at audio-visual content and a 9% increase in chat room participation.

According to the study findings, Germany, the UK and Italy now have the largest at-home Internet populations in Europe. Currently, 35,6 million people have Internet access in Germany, compared to 29 million in the UK and 22,7 million in Italy. Sweden, Hong Kong, the Netherlands and Australia have the most mature Internet markets according to Nielsen-Netratings. The US now accounts for 29% of the global Internet access universe, followed by Europe with 23%, Asia-Pacific with 13% and Latin America with 2%. Read more at <http://www.nielsen-netratings.com/>.

Search engine statistics

Measuring the size of constantly changing Web search engine databases is a complex task – and one that Greg Notess undertakes regularly. Recent data from his search engine analysis show that Google is still solidly in the lead, AlltheWeb moved back up to second, while AltaVista move up to third.

The size showdown compared nine search engines, with MSN Search and HotBot representing the Inktomi database. The analysis used 25 small, single-word queries. Google found more total hits than any other search engine. In addition, it came first in all 25 searches. It is the first time that any search engine was placed first on every single search. AlltheWeb moved back into second place with significant growth since March. AltaVista also had significant growth and moved up to third. WiseNut dropped to fourth and HotBot moved up to fifth. Despite sharing an Inktomi source, HotBot found more hits than MSN and included PDF files not available from MSN.

A further analysis of the content of the four search engines (Google, AlltheWeb, AltaVista and HotBot) that included non-Web pages such as PDFs was done. The analysis showed Google way out in front. Google included some results (URLs) that it had not actually indexed. In addition, Google included and indexed Adobe Acrobat PDF documents and many other file types such as Microsoft Word and PostScript documents. When it counted all the indexed pages, unindexed URLs and other file formats, it claimed over 3 billion pages. But the effective size is less, since most searchers will see very few of the unindexed URLs.

For the full run-down on search engine statistics, sizes, who's who, who's gone, who's new, etc. have a look at <http://www.searchengineshowdown.com>.

Remotehome: interactive home for a mobile society

The RemoteHome is a shared flat that will exist in two distant cities, namely London and Berlin at the same time. Both spaces are electronically connected through the Internet to turn furniture and architectural elements into tangible and sensual means of communication. Sensory and kinetic devices, as well as an interactive light installation will make provision for the exchange between this remotely living group of friends. A mobile wireless artefact in the shape of a transforming interactive bag can be taken on journeys to stay emotionally in touch with the RemoteHome.

The RemoteHome will be presented simultaneously for the first time in two remote places at the Science Museum in London and the Raumlabor in Berlin. Both exhibitions will be open daily during the same time window in May and visitors are invited to become temporary flat mates both in Berlin or London, separated by hundreds of miles.

The project is an architectural response to the emerging notion of a remote society, that is, a society that is forming personal bonds beyond sharing origin or geographical proximity, a culture that is constantly on the move. Information technologies, in all their shapes, have led to a separation between the body of the messenger and the message itself. Relationships between people are increasingly sustained, formed or even ended over long distances through the use of communication technologies, such as the mobile phone, e-mail or instant messaging. The RemoteHome is proposing more intuitive ways of communicating and exchanging presence. The materiality of the architecture will become the medium, the space will transform into a metaphysical reflection of its inhabitants. New technology-enabled experiences will merge with the familiarity of a private home to create new cultural meanings.

The project is a collaboration between Tobi Schneidler, architect and project manager (Smart Studio, Interactive Institute in Sweden) and Carole Collet, course director and textile designer (MA Textile Futures, Central Saint Martins College of Art and Design in London). For more information on the technologies and project, go to <http://www.remotehome.org>.

Discouraging spam

As we all know, spam is annoying, invasive and an increasing burden on the resources of the Internet, Internet service providers, businesses and individuals who have to waste time clicking their delete buttons to get rid of it. The total cost is estimated to be billions of rands a year.

An article by Lee Dembart that appeared in the *International Herald Tribune* this year discusses a plan to discourage advertisers. Part of the problem, which frustrates all efforts to solve it, is that it is impossible to define exactly what spam is. The worst offenders are the absolutely fraudulent offers to make money without working, lose 50 kilograms in a week, get a free mortgage, increase your penis or breast size and so forth.

However, legitimate advertising for legitimate products is in a different category. While most people who receive e-mail offers to buy Viagra on-line may not be interested, some people might. Legitimate advertising has information value and it may tell you about a product or service that you did not know existed but would be happy to buy.

The key to spam, which distinguishes it from all other advertising, is that it is essentially free to the advertiser. In bulk physical mail and telemarketing, advertisers have to pay for each additional person they contact, so there is an incentive to target their advertisements to people who are likely to be interested in what they are selling. With e-mail, however, it costs little more to send the same message to millions of people than it does to send it to a few. This is why we are drowning in spam.

The way to stop spam is to make the advertiser pay for it and that is the insight behind an idea that has been kicking around the Internet in various forms for the past few weeks, attracting some attention. Scott Fahlman and Mark Wegman, researchers at International Business Machines Corp., have come up with a plan that would require anyone who you do not know to pay a small amount – less than the cost of a postage stamp – to send you a message you were not expecting.

Here is how the plan would work: First, a Web site or Web sites would be set up to collect payments from senders and give the money to recognized, well-known and non-controversial charities, such as the International Red Cross and Medecins Sans Frontières. People wanting to send e-mail to a stranger would go to the site, establish an account and make a deposit from which they could draw to buy e-stamps. Stamps might cost about 25 cents each or the equivalent in any currency.

Individuals or Internet service providers would install a small piece of software that would examine all incoming e-mail. Everyone would establish a so-called 'whitelist' of senders whose mail they would accept free and without question. When an e-mail arrives, the software examines it. If the sender is on your whitelist, the e-mail is delivered without question, as is the procedure now. However, if the sender is not on your whitelist, a message goes back directing the sender to the charity site to buy an e-stamp. If the message is sent again with the proper e-stamp, it goes through.

Of course, this would mean that you have to set up and maintain your whitelist and it imposes a small cost on unexpected mailers, such as a long lost friend who finds your e-

mail address and sends you a message out of the blue. It also means that you would have to pay to send a message to someone who was not expecting to hear from you. It would also make it costly for legitimate charities or political organizations to send you e-mail, which they can now do for free, where previously they had to pay to send physical mail.

However, the proposal is a fascinating idea well worth public discussion. Dembart adds that he especially likes the fact that it does not require any legislation or any governmental effort to distinguish good spam from bad spam or define and outlaw certain kinds of speech.

You can read Dembart's full article at [http://www.iht.com/ihtsearch.php?id=92305&owner=\(IHT\)&date=20030425174818](http://www.iht.com/ihtsearch.php?id=92305&owner=(IHT)&date=20030425174818).

Big brother is watching you

I'm sure you know that many programs that you download or Web sites that you visit deposit little bits of computer code on your hard drive, which advertisers and others use to track your Web surfing and find out what you are up to, where you have been and what your interests are. In another piece by Lee Dembart, in the *International Herald Tribune*, he talks about the problem of spyware and how, even though people know that it exists, they are invariably stunned the first time they run a spyware cleaning program and discover that their computer is host to dozens of these programs, watching their every move. However, advertisers insist that there is nothing surreptitious about spyware. It is all spelled out in the licensing agreement that you click through while downloading some useful – and usually free – piece of software.

Dembart discusses the merits of the anti-spyware program Spybot Search Destroy from PepiMK Software (<http://www.spybot.eon.net.au>). It is free, fast, powerful and good. Spybot contains a list of known spyware and that is what it searches for. The software is updated frequently and it also contains a button that facilitates a search for updates. Once Spybot completes its scan, it displays a comprehensive list of everything that it found. Spybot also contains an 'Opt Out' button that lets you tell various advertising companies to stop sending you their junk advertisements. One useful thing is that Spybot contains a file shredder under the 'Tools' button that lets you completely delete a file from your computer in a way that leaves no traces of it on your hard drive. Spybot overwrites the file with random data from one to 99 times. (This is rather important it seems, because when you delete files from your hard disk they are not really gone: erased data from discarded hard disks can be easily recovered according to an article in *PC World*, May 2003, p22–24. This article is available at <http://www.pcworld.com/news/article/0,aid,110012,00.asp>).

Dembart's full article, entitled *Net programs to catch spies*, which also compares Spybot to another program, Ad-Aware, can be found at [http://www.iht.com/ihtsearch.php?id=88386&owner=\(International%20Herald%20Tribune\)&date=20030304132404](http://www.iht.com/ihtsearch.php?id=88386&owner=(International%20Herald%20Tribune)&date=20030304132404).

New books

Idea Group Publishing has announced the publication of a new book *Advances in mobile commerce technologies* by Ee-Peng Lim of Nanyang Technological University, Singapore and Keng Siau of the University of Nebraska-Lincoln, USA (Idea Group Publishing, Hershey, PA, 300 pages, copyright 2003, ISBN: 1-59140-052-X, eISBN: 1-59140-089-6).

With the number of mobile device users exceeding that of personal computer users, conducting business and services over these mobile devices (known as mobile commerce) is becoming real and attractive. Although mobile commerce shares many similarities with

traditional electronic commerce, it extends the latter by offering a wide range of personalized and location-aware services to users by integrating a myriad of technologies. Some of these technologies are required to realize new mobile business opportunities, while others are needed to overcome the operating constraints within the mobile environment, such as limited screen size, less reliable and smaller bandwidth communication channels, shorter battery lifespan and keyboardless input.

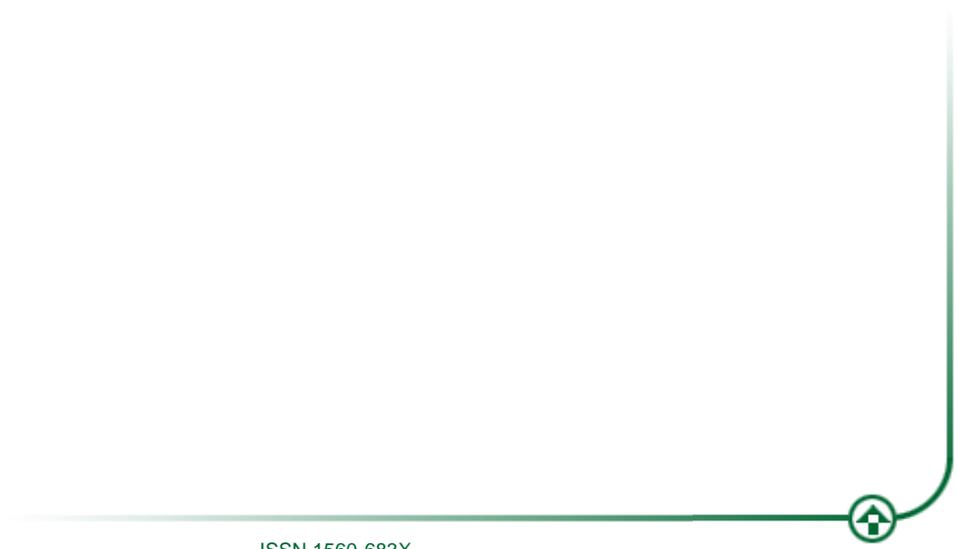
In *Advances in mobile commerce technologies* the authors discuss mobile commerce with an emphasis on both theory and application. The discussion serves as an exemplary introductory guide for both researchers and practitioners. It consists of a collection of chapters on mobile commerce, addressing a wide spectrum of technology and application issues. These chapters are essential to understanding the current state of mobile commerce applications and services. The book is structured into three parts, the first reviewing the current trends and future development in mobile commerce applications and technology, the second focusing on the technological challenges that mobile commerce faces and lastly the application studies and information systems issues in mobile commerce.

About the author

Dr David Raitt is senior technology transfer officer with the European Space Agency in the Netherlands. His work involves finding applications for space technologies in non-space sectors, particularly those useful for improving everyday life. An information scientist by education and training, David is also editor of *The Electronic Library* and chairman of the Internet Librarian International conferences.

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