E.I.T. Links

From "self-service" to "room service":
How Emerging Information Technology is changing the way we live

"The question of whether computers can think is just like the question of whether submarines can swim. " - Edsger W. Dijkstra

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Links for this Issue

Artificial Life

- Researcher Gets $2.9 Million to Further Develop Swarm Intelligence – Swarm intelligence is a branch of artificial intelligence that attempts to get computers and robots to mimic the highly efficient behavior of colony insects such as ants and bees. Researchers are using similar approaches to better route communications.

- Viruses use 'hive intelligence' to focus their attack – Using A tactic familiar from insect behaviour seems to give viruses the edge in the eternal battle between them and their host – and the remarkable proof can be seen in a video.

Brain

- What Happened to the Hominids Who May Have Been Smarter Than Us? – There is some evidence to support the hypothesis that humanoids smarter than us were on the planet, but may have been done in by being too smart too early.

- Where Did the Time Go? Do Not Ask the Brain – In fact, scientists are not sure how the brain tracks time. One theory holds that it has a cluster of cells specialized to count off intervals of time; another that a wide array of neural processes act as an internal clock.

- How to Train the Aging Brain – Brains in middle age, which, with increased life spans, now stretches from the 40s to late 60s, get more easily distracted. However, scientists have looked deeper into how brains age and confirmed that they continue to develop through and beyond middle age.

- Henry Markram builds a brain in a supercomputer (video) – Another outstanding TED video, this one demonstrating how Henry Markram plans to solve the mysteries of the brain and soon. Mental illness, memory, perception: they're made of neurons and electric signals, and he

plans to find them with a supercomputer that models all the brain's 100,000,000,000,000 synapses.

- [Brain 'entanglement' could explain memories](#) – Subatomic particles do it. Now the observation that groups of brain cells seem to have their own version of quantum entanglement, or "spooky action at a distance", could help explain how our minds combine experiences from many different senses into one memory.

- [Aerobic exercise grows brain cells](#) – It turns out that Aerobic exercises such as running or jogging, which have long been known to be good for the health, also stimulates the growth of new brain cells and improves the memory and ability to learn.

Eductional Technology

- [John Seely Brown Lecture on Learning in the Digital Age](#) (video) – One of my favorite 'big thinkers', John Seely Brown, gives his latest thinking on learning in the digital age.

- [Ray Kurzweil tries to build a better e-reader](#) (video) – Ray's latest project, **Blio**, is an effort to improve the emerging electronic book field with software that turns e-books into more than just a digital copy of the print edition.

- [What Are the Top-10 Ed Tech Priorities for 2010?](#) – The latest list of educational technology priorities from the International Society for Technology in Education (ISTE).

- [The Horizon Report for 2010](#) – Each year the horizon report outlines key trends in education for the next several years, including discussion and timelines for adoption.

- [The Education Futures timeline of Education 1657-2045](#) – An extremely interesting timeline, with key developments in education shown, for the nearly 400 year period. An outstanding data visualization example!

Future

- [2020 Vision: Why you won't recognize the 'Net in 10 years](#) – As they imagine the Internet of 2020, computer scientists across the country are starting from scratch and re-thinking everything: from IP addresses to DNS to routing tables to Internet security.

- [Top Ten Forecasts, 2010 and Beyond.mpg](#) (video) – Excellent video about what is likely to occur in 2010.

Information Overload

- [Trillions](#) (video) – This is a short film (a fast paced preview of a larger effort) by MAYA Design created to put some perspective on the invisible but fast approaching challenges and opportunities in the pervasive computing age. Very interesting!

Innovation

- [Technology innovation, life, and the 21st century – ten alternative perspectives](#) – Interesting perspectives from experts on this century's innovation prospects.

- [Singularity Proponent Ray Kurzweil Reinvents the Book, Again](#) – Don't bet against Ray Kurzweil winning the ebook reader war with this amazing competitor.

- [MoveIdiot: Use the Web to Manage Your Move, Track Your Stuff](#) – An innovative and useful application to assist anyone moving. Many features that are useful are included.

- [Apple Sees New Money in Old Media](#) – Apple is determined to make the iPad the main reader for all sorts of media.

- [Interactive paper creates the greetings card 2.0](#) – You would imagine that as everything else moves to version '2.0' greetings cards would follow.

Intelligent Agents

- [RADAR: A Personal Assistant that Learns to Reduce Email Overload](#) – An interesting application showing how intelligent agents are taking over many human functions.

Knowledge Management

- [Welcome to the Age of Robot Reporters](#) – Now there is a widget intended for newspaper websites seeking to display real-time local information derived from Twitter messages, blog posts and automatically extracted public records like restaurant health inspections, building reports and public safety emergency responses.

Kurzweil

- [Ray Kurzweil: The h+ Interview](#) – Kurzweil's latest prognostications about the future of humanity, stunning as always.

Manufacturing

- ['NanoPen' may write new chapter in nanotechnology manufacturing](#) – Researchers in California are reporting development of a so-called "NanoPen" that could provide a quick, convenient way of laying down patterns of nanoparticles — from wires to circuits — for making futuristic electronic devices, medical diagnostic tests, and other much-anticipated nanotech applications.

Medical

- [Augmented Reality in a Contact Lens](#) – A new generation of contact lenses built with very small circuits and LEDs promises bionic eyesight.

- [Removing heart tumour can also be bloodless](#) – In a breakthrough in cardiac care, Bangalore-based HCG Hospitals has successfully removed a tumour in the left ventricle of the heart through CyberKnife, a bloodless and painless surgery performed by a robotic system that uses artificial intelligence.

- [Medical Artificial Intelligence Still a Hard Sell in the Clinic](#)– Although many accomplishments have occurred, the hype surrounding AI in medicine has outstripped reality.

Military

- [DARPA Spends $51 Million On Matrix-Like Cyber War Firing Range](#) – DARPA hopes **a $51 million network simulation**, complete with computer programs that behave like human targets and adversaries, will provide the perfect arena for developing the next generation of cyberwar weapons and tactics.

MISC

- [Innovative tech projects won't slow down for some](#) – RFID and other innovative uses of information technology continue even during a recession.

- [5 Enterprise Trends to Watch in 2010: Part 1](#) – Mashups, collaboration, real-time enterprise, the mobile enterprise, and software-as-a-service top the list for 2010.

- [5 Enterprise Trends To Watch in 2010: Part 2](#) – API's, web oriented architecture, community management, VoIP, and the Big Sync constitute the second five on the list.

- [Cloud rEvolution (vol 3): the Cloud Effect](#) – The third volume in the CSC Leading Edge Forum series on cloud computing is now available. Must read if you are interested in cloud computing!

- [Cloud rEvolution (vol 4): A Workbook for Cloud Computing in the Enterprise](#) – The fourth volume in the CSC Leading Edge Forum series on cloud computing is now available. Includes specific steps to take to make it happen.

Nanotechnology

- [How Close Are We to Real Nanotechnology?](#) – The latest straight from the experts. Bottom line is that progress in nanotechnology is continuing at an amazing pace.

Robots

- [Where's My Personal Robot?](#) – Excellent update on progress in the personal robot arena. Many are coming, especially in health care for the elderly.

- [S.Korean scientists develop walking robot maid](#) – In case you were doubting, a 'robotic maid' is on its way soon.

- [Noel Sharkey on the inexorable rise of robots](#) (video) – Watch this update to be impressed with progress in the field of robots. Noel Sharkey is one of the best at outlining where we are headed.

- [The Truth About Robots and the Uncanny Valley: Analysis](#) – Great analysis of the problems and roadblocks in robotic development, i.e., the 'valley'.

- [Robots climb up the wall](#) (with videos) – Here is an amazing video of robots climbing walls, much like some insects can do.

Sensors

- [As the Refrigerator Said to the Hi-Fi ...](#) – Networked sensors and devices have huge potential but how can we ensure that they can all talk to each other? The answer, according to a European consortium, is to link them seamlessly through a common 'middleware'.

- [Robot border guards to patrol future frontiers](#) – The expanding world of sensors continues to make inroads in border patrol. The idea is to scatter arrays of sensors in a border area in ways that give guards or robots plenty of time to respond before their targets make good an escape.

- [Welcome to the Decade of Smart](#) (speech) – Great presentation by the CEO of IBM about the coming Smarter Planet, based on vast arrays of sensors and intelligent software. (NOTE: My mantra has long been we are on the cusp of "knowing everything about everything at all times".)

- [Sniffing out terrorists](#) – Now a new intelligent system has been developed to help identify terrorists carrying explosives. Sensitive electronic noses capture the smell of the explosives; the system processes the acquired data, correlates it with individuals' movements... and ultimately tracks down the suspects.

- [Embedded electronics bring pop-up books to life](#) – Sensors are now even embedded in pop-up books to add interactivity and interest.

Speech Recognition

- [Search, Monetize and Fact Check YouTube Transcripts with Speakertext](#) – Users can search video text for relevant quotes and embed the linked quote or the Speakertext player and video into their blogs. To index your own video with the system, you can either transcribe it yourself or opt into a Mechanical Turk package. For $20 dollars per hour of video, you can have speeches, events and podcasts transcribed.

Virtual Reality

- [City Tech Gets a 'Second Life'](#) – At Brooklyn's New York City College of Technology (City Tech), faculty and students aren't just attending classes on campus, they're attending virtually as well — in Second Life.

Web 2.0

- [Fortune 500 companies using social media to reach customers](#) – Harnessing social media tools to boost sales, connect with customers and increase brand recognition has become standard operating procedure in Corporate America.

- [Five examples of innovation with Twitter](#) – Credible case studies or examples of how people in organizations successfully use social communication channels like Twitter to connect and engage with customers are gold dust to anyone looking to

make a case in their own organization.

- [PBWorks Offers Templates - A Great Way To Get Started In Enterprise Collaboration](#) – PB works, a wiki software package, is taking a smart approach by extending its position in vertical markets and offering a template store that people may download and use in a variety of business- and industry-specific ways.

- [Twitter for Teams](#) – A twitter application for team collaboration has now emerged. This app allows users to share text, tasks and files.