

# E.I.T. Links

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

“The best way to predict the future is to create it.”  
 ~Peter F. Drucker

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### *Editor's Note:*

Please feel free to pass on the newsletter to those interested. Anyone wishing to receive future editions of the newsletter, please email me at: [sknode@gmail.com](mailto:sknode@gmail.com).

Note: This newsletter contains links found during May 2008, and all of the links were working at time of publication.

Remember, all links here can be found at [www.steveknode.com/news\\_updates.htm](http://www.steveknode.com/news_updates.htm)

### Links for this Issue

#### AI General

- [Artificial intelligence helps explore Mars](#) – The complex Mars scheduling problem is being partially (and successfully) solved by using Artificial Intelligence.
- [Intelligent Computers See Your Human Traits](#) – Today’s computers can do a lot as far as computation goes, but they tend to do it in an impersonal, stand-offish way, so to speak. However, computer engineers are busy changing that, as they try to give computers a bit of a personal touch to make human-computer interaction more natural and friendly.

#### Brain

- [Get Smarter: 12 Hacks That Will Amp Up Your Brainpower](#) – Interesting perspective on some facts and myths about increasing brainpower.
- [For a Sharp Brain, Stimulation](#) – It turns out that exercise does, in fact, increase your memory, decision-making ability and attention.
- [Older Brain Really May be a Wiser Brain](#) -- Older brains are often better problem solvers since they have retained more “extra” data which is beneficial in complex decisions.
- [All on the Mind](#) – We are on the cusp of having new drugs which function as cognition enhancers. They work on the neural processes that underlie such mental activities as attention, perception, learning, memory, language, planning and decision-making, usually by altering the balance of the chemical neurotransmitters involved in these processes.
- [Monkey Thinks Robot into Action](#) – The latest development in having a monkey “think” its way into action. This time, a monkey has been able to directly control a robotic arm to feed itself using only thought.

#### Data Mining

- [Breakthroughs in Analytics, Part 1](#) – Nobody can read a customer's mind, but with the right analytics technology, you can come pretty close. Uses of analytics are

becoming more widespread and the tools much more user friendly. (NOTE: There is also a part 2 and part 3 to this article, accessible from this one.)

### Data Visualization

- [Telstra chief hosts conference as hologram](#) – There is a continuing improvement in the capability to “project” images, including people, into alternate spaces. Here a conference host appears as a complete hologram. Although expensive and difficult to do at the moment, how long (with exponential improvements) will it be until it becomes the norm?
- [The Best Tools for Visualization](#) – This is yet another outstanding article (blog?) from ReadWriteWeb, this time describing several good data visualization tools.
- [Visual resources online: Digital images of primary materials on public Web sites](#) – The “deep web” contains many pages of digital images not usually findable by the common search engines. Check this link for a comprehensive listing of many sites for images.

### Future

- [Self-Styled Cyborg Dreams of Outwitting Superintelligent Machines](#) – Kevin Warwick is a serious researcher whose ventures into becoming a cyborg have intrigued me for years (see his website for earlier experiments he has conducted, <http://www.kevinwarwick.com/>). This time, Dr. Warwick is planning on implanting a sensor in his brain to become one with the matrix.
- [Fifty years of DARPA: Hits, misses and ones to watch, part II](#) – As always, the things DARPA is working on are fascinating. Many of them will become successful based on their track record. Check out the latest list and keep an eye out for progress.
- [The future ain't what it used to be](#) – This is a very interesting perspective on the future, especially as it applies to IT workers. The

author views technology adopting improving to the point where we will not necessarily have a worker shortage that many are predicting.

- [50 years from now: Big brains have big ideas for what lies ahead](#) – Yet another set of predictions, this time 50 years out, that may provoke your thinking.

### Machine Learning

- [You Play a Game, Computers Get Smarter, AI Starts to Work](#) – An interesting approach to getting people to contribute efforts for free. There are several games highlighted here which are fun to play and also teach the computer to do things it can't yet do for itself.

### Manufacturing

- [A healing balm](#) – Progress continues toward machines that can fix themselves. This is one of the latest developments, self-healing substances.
- [This, from That](#) – Interesting story about how people are sharing their knowledge for creating unique inventions.

### Medical

- [3D ultrasound wand to aid autonomous robotic surgeons](#) – Ultrasound has gone 3D which could yield future robots that can autonomously perform surgery on patients in dangerous situations like battlefields.
- [Welcome to Google Health](#) – As the movement toward electronic medical records grows, Google wants to be the one to make it happen. There are many benefits to electronic medical records, but some are concerned about privacy and security.
- [A Faster Way to Detect Heart Attacks](#) – Detecting heart attacks has always been problematical in real time. This approach seems to have promise.

- [Nanohealing Material Heads to Market](#) – More developments in the nanotechnology arena, this time a material that can be poured over a site to stop the bleeding almost at once.
- [Artificial Cornea Mimics Natural Counterpart](#) – The development of an effective artificial cornea makes corneal transplants more widely available.
- [MRI-enabled brain surgery robot revealed](#) – Robots continue to gain surgical skills including brain surgery compatible with MRI scans.

### Military

- [Troops to use electronic insects to spot enemy 'by end of the year'](#) – The military continues to lead in using robots cleverly in hostile situations. This application discusses several robotic insects which are close to fielded use.
- [Robotic suit could usher in super soldier era](#) – Robotic suits for soldiers can multiply their strength and endurance by 20 times with relatively little loss of agility
- [Carpet bombing in cyberspace](#) – According to this article, America needs a network that can project power by building an af.mil robot network (botnet) that can direct such massive amounts of traffic to target computers that they can no longer communicate and become no more useful to our adversaries than hunks of metal and plastic.

### MISC

- [Professor studies what cars can learn from drivers' words](#) – With cars having many sensors and other services built in, drivers willing to have personal conversations with the artificial voice in their cars—and what will become of the secrets the humans share with their four-wheeled friends.
- [Self-repairing aircraft could revolutionize aviation safety](#) – Aircraft will soon be able to make their own repairs. The technique

works like this. If a tiny hole/crack appears in the aircraft (e.g. due to wear and tear, fatigue, a stone striking the plane etc), epoxy resin would 'bleed' from embedded vessels near the hole/crack and quickly seal it up, restoring structural integrity.

### Nanotechnology

- [Nanoparticles of a Different Stripe](#) – Nanoparticles are becoming so small that they can permeate cell membranes and deliver targeted drugs to specific areas.

### NLP

- [Using Artificial Intelligence to Create Eye-Catching and Precise Text](#) – This software product can dramatically improve individual writing style and eliminate embarrassing mistakes due to poor writing skills according to the developers.

### RFID

- [RFID Helps Reward Consumers For Recycling](#) – RFID applications keep emerging. This time rewarding consumers for recycling empty containers. Used by more than 35 communities, the RFID embedded containers allow for accurate measuring of each consumers contribution.
- [RFID Chips Make Luggage Transport Reliable](#) – No more lost luggage! With the use of RFID chips, travelers can count on their luggage showing up where it is supposed to.

### Robots

- [Sending robots to surgery pays off](#) – What do you call a surgeon who operates without scalpels, stitching tools or a powerful headlamp to light the patient's insides? A better doctor, according to a growing number of surgeons who prefer to hand over much of the blood-and-guts portion of their work to medical robots controlled from computer consoles.

### Semantic Web

- [Powerset brings the Semantic Web to Wikipedia](#) – The Semantic Web continues to emerge. Powerset can provide answers in

clear text by searching Wikipedia to find the answers and then formulating a natural language response.

### Sensors

- [NASA Nanotechnology-Based Biosensor Helps Detect Biohazards](#) -- Biosensors that can detect trace amounts of specific bacteria, viruses and parasites now exist. This biosensor will be used to help prevent the spread of potentially deadly biohazards in water, food and other contaminated sources.

### Virtual Reality

- [USC Creates Virtual Environments For Hollywood, Military](#) – The Institute for Creative Technologies, part of USC, has organized a gaming community to create interactive and virtual environments. The avatars in these virtual environments can interact with real persons.
- [Researchers Create Character With Reasoning Abilities of a Child](#) -- Rensselaer Polytechnic Institute is working to engineer characters with the capacity to have beliefs and to reason about the beliefs of others. The characters will be able to predict and manipulate the behavior of even human players, with whom they will directly interact in the real, physical world, according to the team.
- [Virtual IRAQ](#)-- The Department of Defense is testing Virtual Iraq—one of three virtual-reality programs it has funded for P.T.S.D. treatment. If virtual-reality exposure therapy proves to be clinically validated it may be more than another tool in the therapists' kit; it may encourage those in need to seek help.
- [Most Business-Launched Virtual Worlds Fail, Gartner Says](#) – A Gartner study has concluded that the vast majority of virtual world projects fail not because they did not understand the technology, but because they did not understand the needs of the employees using it.
- [On strike, virtually](#) – Something new is the use of virtual worlds to make a point---in this case, a strike. Last September in Italy, at

the local arm of IBM about 2,000 employees of the computer giant—logging on from home to dodge legal problems—staged a virtual protest against a new pay settlement at IBM's corporate campus in Second Life, an online virtual world.

### Web 2.0

- [DOD, DHS find voice in blogs](#) – More and more government agencies are making use of blogs to communicate with the public. The use of blogs allows for bringing people closer to the government.
- [Social Networking Meets Personal Finance](#) – Social networks for many purposes are beginning to emerge. Here is an example of one dealing with personal finance.
- [How the Enterprise Moves to 2.0](#) – This excellent interview with Clay Shirky author of “Here Comes Everybody” outlines how enterprises are beginning to adopt web 2.0 strategies. Shirky focuses on the intersection of technology and sociology. (NOTE: There is a video discussion by Shirky at: [http://www.youtube.com/watch?v=A\\_0FgRKsqgU](http://www.youtube.com/watch?v=A_0FgRKsqgU))
- [Wikis Are Now Serious Business](#) – Ten good examples of serious uses of wikis are discussed in this article.
- [Tetherless World Conference](#) – A recent panel discussion on the future of the web and the coming web 3.0 technologies was recently held at Rensselaer Polytechnic Institute. (NOTE: A link to the keynote presentation by Tim Berners-Lee is available by clicking on the Live Webcast link at the site.)