

E.I.T. Links

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

“Information technology and business are becoming inextricably interwoven. I don't think anybody can talk meaningfully about one without the talking about the other. ”

--Bill Gates

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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: steve@steveknode.com.

Note: This newsletter contains links found during July, August, and September of 2007, 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

Links for this Issue

Future

- [Metaverse Roadmap](#)– During the past year many members of the Accelerating Studies Foundation and associated members have put together this outstanding document on where we are headed as the web 2.0 and virtual worlds meet. This is a must read to see where we are headed!
- [Why Care About Artificial Intelligence?](#) – This excellent followup to an earlier article (Artificial Intelligence in Our Lifetime) gets into the “so what” aspects. Well-written, this document gives a very thorough answer to the question.
- [Meetings \(and Society\) Forty Years from Now](#) – Want to see how meetings will be

conducted forty years from now? This article outlines some very interesting (and provocative) trends in society and industry.

- [10 Future Web Trends](#) – Some very interesting trends are discussed in this blog from one of my favorite blog sites, Read/WriteWeb. Check out this interesting link.
- [Summary of the Singularity Conference Sep 2007](#)– This year's Singularity Summit Conference is now over, and this contains a summary of the events. The Singularity Summit looks at developments in the future and includes some of the best speakers ever. This summarizes the presentations from this years conference in September.

Sensors

- [Smart Clothes to Monitor Health](#) – How about clothes that can monitor your health? The aim is to use the clothes to check on groups such as recovering hospital patients, people with chronic illnesses and injured athletes.
- [Micro-generator Feeds on Good Vibrations](#) – This application shows how the growing world of sensors might be powered. Another indication of how sensors are showing up everywhere.
- [Sensors May Monitor Aircraft For Defects Continuously](#) – As sensors begin to be embedded in everything, the use of sensors to provide the “room service” model is growing.

Neural Networks

- [AI investing could be in your future](#) – Evidence that neural networks are being used in financial investing is contained in this article. In Arizona, for example, the state funds for some schools are being successfully invested using a neural network approach.
- [Pension Reform Prompts Charter School to Turn to Artificial Intelligence](#) – Another example of the same approach to investing with neural networks--in fact, the same company is featured.
- [Intelligent playgrounds](#) – Interesting approach to using embedded sensors and neural networks to develop playground games that automatically adapt to the athletic abilities of children.

Artificial Life

- [Swarm Theory](#) – An excellent primer on Artificial Life and how swarms of animals operate without direct guidance. Applications to the business world are featured.
- [Artificial Societies and Virtual Violence](#) – How modeling societies *in silico* can help us understand human inequality, revolution, and genocide. (Free registration required.)
- [Arresting developments](#) – Instead of looking at how computers can mimic creatures, Stephen Emmott wants to build computers from biological components.
- [Sentient world: war games on the grandest scale](#) -- The DoD is developing a parallel to Planet Earth, with billions of individual "nodes" to reflect every man, woman, and child this side of the dividing line between reality and AR. Called the Sentient World Simulation (SWS), it will be a "synthetic mirror of the real world with automated continuous calibration with respect to current real-world information", according to a concept paper for the project.

Military

- [The Cutting Edge of Defense IT](#) – This is an outstanding report on many aspects of Defense IT developments. Scientists are pushing IT ever closer to achieving the processing power and cognitive awareness of living beings. At the same time DARPA is applying technology to the pressing threats imposed by current conflicts, the agency is sponsoring more than a dozen innovative projects. (NOTE: You can listen to the reports as well as read them.)
- [Pentagon Plots Digital "Crystal Ball" to "See the Future" in Battle](#) -- DARPA, the Pentagon's way-out research arm, is looking to design a software suite that predicts the future for battlefield commanders. At the heart of the package: A digital "Crystal Ball" that forecasts how a mission is going to turn out, before it's done.
- [Robotic Insect Takes Off](#) – The military is working on a life-size, robotic fly. While much work remains to be done on the mechanical insect, the researchers say that such small flying machines could one day be used as spies, or for detecting harmful chemicals.
- [First Armed Robots on Patrol in Iraq \(Updated\)](#) – The use of robots for patrol in Iraq is updated in this link. Included is a video showcasing the potential for the use of robots in battle.

Brain

- [A Step Toward a Living, Learning Memory Chip](#) – Neurons cultured outside the brain have set the stage for the creation of a neuromemory chip that could be paired with computer hardware to create cyborglike machines capable of such tasks as detecting dangerous toxins in the air, allowing the blind to see or helping someone who is paralyzed regain some if not all muscle use.
- [A 3-D View of the Brain](#) – Researchers at Thomas Jefferson University Hospital, in Philadelphia, have developed software that integrates data from multiple imaging technologies to create an interactive 3-D map of the brain.

- [Cognitive Revolution: Integrating Computing, Nanotech, Simulation And You](#) – Imagine a world where a machine creates a “virtual” you, by modeling how you think and your expertise on a subject. Or one where your car’s computer appreciates your driving skills and compensates for your limitations. That’s the world Sandia National Laboratories has entered full throttle through its Cognitive Science and Technology Program (CS&T).
- [Technology could detect brain injuries on battlefield](#) – Canadian military scientists are trying to develop a technology to detect possible brain injuries as more soldiers are being exposed to powerful blasts that can leave them with dangerous yet hidden wounds.

[Search Engines](#)

- [Bandai’s visual search engine for music](#)– Japanese Bandai Networks has introduced a new visual search engine that allows mobile phone users to find and purchase music using visual search.
- [Building a Better Search Engine](#) – There is a better search engine coming, according to a company in San Francisco. The engine does more than merely accept queries asked in the form of a question. The company claims that the engine finds the best answer by considering the meaning and context of the question and related Web pages.

[Virtual Reality](#)

- [Tangible display makes 3D images touchable](#) – A system that makes three dimensional images solid enough to grasp has been unveiled by Japanese firm NTT. It could let businesspeople shake hands from across the globe or allow museum visitors to feel precious exhibits that are normally out of reach.
- [Second Life: Do You Need One?](#) – An excellent four part series on Second Life, getting to the heart of the approach, the “so what” aspects. Excellent reading!
- [Virtual worlds making artificial intelligence apps 'smarter'](#) – About to be unveiled is a program that will allow its AI software to “learn” by interacting with humans in virtual worlds. (NOTE: There is a podcast detailing the subject available at [Nine Years to a Positive Singularity – If We Really, Really Try](#) by Ben Goertzel).
- [Burning the Virtual Shoe Leather](#) – Now that Second Life has become more accepted, there are some interesting applications of the technology emerging, such as “virtual reporters” staking out stories in Second Life worlds.
- [A Second Life For Businesses](#) – A startup company has now created the "virtual workspace," a three-dimensional office building, as the core element of Qwaq Forums. Users can customize its look and feel, add whole new rooms on the fly, and create virtual offices that can be controlled and administered by one employee or designed for only one topic. That gives workers from different sides of the globe a chance to work in the same office, communicating by voice and instant message.
- [A world wide web of terror](#) – Not all applications in Second Life are benign. Terrorists are also using the environment to practice attacks.

[Medical](#)

- [A Blueprint For 'Smart' Health Care](#)– A smart medical device (even a cell phone) that can automatically take a person's blood pressure, temperature or respiration rate the minute a person steps into his or her house -- then transmit it immediately and automatically to doctors or family is soon going to be available. Providing medical care at a distance, and using sensors, this approach could be revolutionary.
- [The Future Of Medicine: Insert Chip, Cure Disease?](#) -- It may sound like science fiction, but University of Florida researchers are developing devices that can interpret signals in the brain and stimulate neurons to

perform correctly, advances that might someday make it possible for a tiny computer to fix diseases or even allow a paralyzed person to control a prosthetic device with his thoughts.

- [AI system predicts medicine's hidden powers](#) – Most drugs have secondary effects that are often not known (ex. Viagra, which was originally developed to control high blood pressure). Researchers are now using AI systems to automatically find new uses for already approved drugs. Read this fascinating account to see how it is done.
- [Top 4 New Breakthrough Medical Devices: Live @ DARPA Tech](#) – DARPA, which does a lot of interesting research has now presented some of the most promising medical devices along with their potential impact in the current ongoing conflicts.

[Nanotechnology](#)

- [Automation of Nanotech Manufacturing May Be Ahead](#) – The new automated technique for nanomanufacturing suggests that the emerging nanotechnology industry might capitalize on skills already mastered by today's engineering workforce, according to the researchers.
- [Nanotechnology and the Future of Warfare](#) – Take a look at this excellent presentation by Mike Treder of the Center for Responsible Nanotechnology on the future of nanotech warfare. There is certainly something here to get your attention.

[Artificial Intelligence - General](#)

- [Sharing a joke could help man and robot interact](#) – One of the more difficult things to achieve in AI is the art of humor. In this report, you will learn that some significant progress has been made in this endeavor.

[RFID](#)

- [The RFID Hacking Underground](#) – As anticipated, with RFID chips becoming embedded everywhere, there is a growing interest in “hacking” into the chips, raising

security concerns.

- [China Enacting a High-Tech Plan to Track People](#) – It was only a matter of time before some country decided to make use of chip technology to track its citizens. China appears to be that country.
- [Clothing Shop Tweaks RFID Tech for Hip Shoppers](#) – RFID tags are applied to clothing and can be read by sensors in the store. That means a store employee can wave a wand over a rack of clothes and take inventory in minutes instead of days. A cashier can ring up 20 T-shirts simultaneously or learn that a customer has a stolen hat stashed in his pocket, thanks to an RFID reader under the counter.

[Robots](#)

- [Zeno Could Be Next Robot Boy Wonder](#) – Get ready for this year's Furby. Zeno appears to be the next “must have” robot. Hanson Robotics' latest creation is a 17-inch, 4.5-pound robot boy that can walk, talk, express emotions, and make eye contact.

[Manufacturing](#)

- [Researchers Reinvent the Wheel](#) – Reinventing the wheel might sound strange, but this time scientists have developed an artificial intelligence system to allow the wheels of a car to think and act for themselves, thereby becoming “smart” .
- [3-D printing for the masses](#) – Get ready to use your printer to “print” out all kinds of 3-D objects, from tools to toys—cheaply!

[Semantic Web](#)

- [What's next for the Internet](#) – Lots of developments are planned for the world wide web, including some significant progress in the Semantic Web.
- [Chatterbots](#)
- [New Artificial Intelligence Teaches Language To Consumers](#) – This chatterbot teaches language by encouraging the student to learn in real life situations. Interactive immersion scenes are based on everyday

scenarios, which strengthen and prepare abilities in a realistic fun way.

Expert Systems

- [A Revolutionary New Software Product Benefits Employment Law Practitioners And Their Clients](#) – This expert system can assist with decisions concerning the Family Medical Leave Act (FMLA) and the Americans with Disabilities Act (ADA). The software will guide the user through a series of straightforward yes/no questions in a process that leads to the right result. By asking a simple set of questions, providing all forms, giving detailed instructions concerning where everything is to be filed and fully documenting a file through every step in the analysis, the software becomes a one-stop shop.