

E.I.T. Links

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

“One machine can do the work of fifty ordinary men.
 No machine can do the work of one extraordinary man.”
 ~Elbert Hubbard, 1923

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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.

Note: This newsletter contains links found during Nov 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 and previous newsletters are available at: <http://www.steveknode.com/newsletters.htm>

Links for this Issue

AI General

- ['Artificial Intuition,' Earthquake Detectors vie for Pentagon Prize](#) – More interesting ideas being promoted by DARPA. Included it an application of AI which can do ‘content analysis’ of documents.

Brain

- [The Brain Unveiled](#) – A new imaging method that offers an unprecedented view of complex neural structures could help explain the workings of the brain and shed light on neurological diseases.

- [Harnessing the Power of the Brain \(video\)](#) – Quietly in a number of laboratories, an astounding technology is developing that directly connects the human brain to a computer. It's like a sudden leap in human evolution - a leap that could one day help paralyzed people to walk again and amputees to move bionic limbs.
- [IBM aims to replicate the brain with cognitive computing project](#) – IBM and others are seriously attempting to replicate the human brain in terms of simulating the brain's ability to sense, perceive, act, interact and recognize patterns.
- ['Super' aged brains reveal first secrets of sharp memory in old age](#) – Elderly with exceptional memory (called ‘super aged’) have a different type brain than ordinary elderly. New findings indicate some exciting news.

Decision Support Systems

- [Improving Outcomes with Clinical Decision Support: HIMSS Clinical Decision Support Guidebook Series](#) – A new decision support tool for clinical decision support will be released in Jan 2009. Some details, including chapter 1, are at this link.

Educational Technology

- [The Semantic Web in Education](#) – Developments in the Semantic Web continue to progress. This article shows how the Semantic Web will profoundly change the educational process.

Future

- [Singularity Summit 2008 Reviewed](#) – One of my favorite events that provides extremely interesting perspectives on the future is the yearly Singularity Summit. This is an advance look at the presentations from this year. (NOTE: Videos of the presentations will be available soon.)
- [IBM Reveals Five Innovations That Will Change Our Lives in the Next Five Years](#) – Each year IBM makes its predictions for the key innovations that will impact the next five years. This year's predictions are very interesting.
- [Expectation of Machine Intelligence Could Change Social Behavior, Says Economist](#) – As computers get smarter machines could become more intelligent than humans within a few decades, leading to an event dubbed the Singularity. Many changes will undoubtedly occur.

Information Overload

- ['Digital dark age' may doom some data](#) – Concerns over the survival of digital data (e.g., format changes, short-lived media, etc.) are growing. We could face an era where our data is irretrievable.

Information Visualization

- [A Periodic Table of Visualization Methods](#) – An outstanding table showing the many ways to visualize data, information, concepts, strategy, metaphors, and compound methods. You have to see this table to believe it. (NOTE: Let your mouse hover over each 'element' to get an example of the method.)

- [Google Flu Trends](#) – Innovative and interesting example of using data to forecast, in this case flu outbreaks. Google uses search data to estimate flu outbreaks in your area up to two weeks faster than other methods.
- [Pinching display lets you feel the data](#) – A DEVICE that pinches and stretches the skin on the fingertips, rather than prodding and poking it, could revolutionise the way blind people access graphs and maps.
- [Massive EU online library looks to compete with Google](#) – Some competition for Google's effort to digitize all books and materials. As the article states, digitalisation techniques will "enable a Czech student to browse the British library without going to London, or an Irish art lover to get close to the Mona Lisa without queuing at the Louvre,"

Innovation

- [BIF-4 Videos](#) – The Business Innovation Factory (BIF) videos from its latest conference. There is always something of value in this set of innovative ideas.
- [Nursing Home of the Future](#) – One of the BIF applications bears special mention. The Nursing Home of the Future (an actual nursing home) shows just how dramatically eldercare will change.

Intelligent Agents

- [Bot-Mediated Reality \(video\)](#) – Author, businessman, and programmer Daniel Suarez discusses the role of "bots" in our society. He argues that because of our growing reliance on them, along with their increasing complexity and the vast amounts of data they have access to, they are becoming a threat to human autonomy. A **MUST VIEW!**
- [Agent-based computer models could anticipate future economic crisis](#) – Intelligent agent modeling might provide an alternate way of dealing with future economic crises by creating new models that

will provide policymakers with more realistic pictures of different types of markets.

[Kurzweil](#)

- [Kurzweil Videos for download](#) – My favorite futurist, Ray Kurzweil, has several of his videos available for free download.

[Machine Learning](#)

- [Football: Computers Learning to Watch, Evaluate, Maybe Even Coach](#) – Progress continues in the area of machine learning. Now, computers are learning how to ‘understand’ videos of football plays.
- [Poker bots raise the stakes for human players](#) – Poker bots are beginning to outperform humans in playing poker. This is a substantial advance in machine learning as the strategy for poker playing includes such subtleties as ‘bluffing’.

[Manufacturing](#)

- [Sneakey Robbers Turn to the Social Web](#) – A simple digital image of a key can now be copied well enough for the key to actually work.

[Medical](#)

- [Scientists develop artificial heart that beats like the real thing](#) – An artificial heart that beats almost exactly like the real thing is to be implanted in patients within three years in a trial that may offer hope to heart disease sufferers unable to receive a transplant.
- [Engineering Edible Bacteria](#) – Probiotics, a field that seeks to use edible bacteria to improve human health, may soon undergo a metamorphosis. Students at MIT and Caltech are using the techniques of synthetic biology to create bacteria that fight cavities, produce vitamins, and treat lactose intolerance.
- [Personalised cancer treatment on the way](#) – A genetic signature that predicts whether a

variety of cancers will respond to the most common treatments. This could help identify which patients need drugs and radiotherapy, and which can be treated less aggressively.

- [Health 2.0 Through the Eyes of a Diabetic - One Year Later](#) – The growth of health 2.0 applications continues. There are now a lot more of these interactive applications to provide health assistance.

[Military](#)

- [Battlefield Medic on a Chip](#) – The military is hoping that miniature sensors that can monitor a soldier’s blood, sweat and tears to detect injuries will help reduce battlefield casualties.
- [US Army To Test Artificial Intelligence In MMOs](#) – The US Army are working on fake soldiers. That are, to dumb the science down a pinch, holographic projections imbued with artificial intelligence. These fake troops can then be used for stuff like training exercises. Anyway, to test the AI for these holo-soldiers, the Army wants to set them up in games like World of Warcraft and Eve Online.
- [Army Tries Holograms, Quantum Computing](#) – The US Army is trying several innovative approaches to improving warfare. This article outlines several of the most interesting.
- [A Soldier, Taking Orders From Its Ethical Judgment Center](#) -- Some researchers designing robots for battle insist they can behave better than humans in the heat of warfare.

[MISC](#)

- [The Coming Wireless Revolution](#) – The coming wireless revolution promises high bandwidth, wireless signals that will blanket the earth. New frequencies are being made available that will foster more innovative uses of wireless technology.
- [The Singularity will go Mainstream](#) – The Singularity will stop being something that only the fringe futurists discuss. Everyone will soon have to come to grips with the

approaching Singularity. Even business plans will have to include some accounting for this approaching event.

- [Top Visionaries: Agenda Setters 2008](#) – You will probably recognize many of the names of the key players who are setting the agenda for 2008.
- [15 Hot New Technologies that will change Everything](#) – Check out these 15 technologies that will have a significant impact on our world.
- [A Better Network for Outer Space](#) – Vinton Cerf is helping design a better communications system for outer space, the Interplanetary Internet.
- [Evolutionary Entrepreneur Drug Proposed](#) – Researchers are suggesting that the ability to make risky decisions might be a trait that can be passed on.

[Neural Networks](#)

- [Cops Enlist HAL in fight against Crime](#) – Neural networks are being used to help pull together forensic data. In addition, particle swarm intelligence and autonomous agents are being incorporated to help deal with the vast amount of data.
- [Michigan Company Founded upon What Could Be History's Most Important Breakthrough in AI and Robotics](#) – A company claims that it has developed self-assembling, cumulatively bootstrapping artificial intelligence. (NOTE: I have long followed Steven Thaler for his very innovative approaches to AI. His company is cutting edge.)

[NLP](#)

- [Juice](#) – Juice is an application which claims that it can interpret the 'context' of information and automatically find relevant additional information.

[RFID](#)

- [Borderline Security](#) – Concerns are increasing that RFID enabled driver's licenses and other documents could be copied by counterfeiters who interpret the RFIT signal.

[Robots](#)

- [Brainy Robots To Lead To Longer Unemployment Lines?](#) – Increased concern is apparent among those whose jobs could be taken by robots. As the robot revolution continues, the ability of robots to perform human tasks continues to grow.
- [The robot that can pull faces just like a human being](#) (video) – This fascinating video shows how realistic robot faces are becoming. Can *Data* be far behind?
- [Robots in a bar near you \(video\)](#) – Watch how effective this robot is as a bartender, even able to engage in conversation.
- [In an Age of Robots, One to Clean the House? Still but a Dream](#) – Clearly, *Rosie* is not yet available, but soon there will be something quite effective. Several robots under development are featured in this article.

[Search Engines](#)

- [New Chapter for Google Book Search](#) – Google's book project continues to expand. Now, readers can have access to millions of in copyright books among other new features.

[Semantic Web](#)

- [10 Semantic Apps to Watch - One Year Later](#) – This is an update on 10 Semantic Web applications highlighted one year ago. The evidence is mixed on how successful they have been.

[Virtual Reality](#)

- [Virtual worlds set for second coming](#) – Virtual worlds have a bright future,

especially as businesses start to realise how they can be used for collaboration within their organisation and with customers.

- [A Realer Virtual World](#) – Putting sensors into virtual worlds can help add reality to these worlds.

Web 2.0

- [Spy Fears: Twitter Terrorists, Cell Phone Jihadists](#) – Concerns are growing that terrorists could be making use of technologies such as Twitter to coordinate and plan activities.
- [Enterprise Microsharing Tools Comparison](#) – This report compares several microsharing tools and discusses how they can improve communication.
- [Web 2.0 Summit Videos](#) – Videos from the recent Web 2.0 Summit. Many of these videos feature cutting edge applications of web 2.0 technologies.
- [A List of Social Media Marketing Examples](#) – An *exhaustive* and regularly updated list of companies making use of web 2.0 technologies.
- [Wikileaks](#) – An interesting application of wikis, in this case to uncover and publicize unethical behavior in governments and institutions.