

# E.I.T. Links

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

“Computing is not about computers any more. It’s about living.”  
 ~Nicholas Negroponte

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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 Jun 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

- [Whatever Happened to Artificial Intelligence?](#) – Artificial Intelligence has progressed more than most realize. Check this link for many examples of AI in practice.
- [AI Gets Real](#) – Related to the above link, this slideshow (with text) illustrates several real world applications of AI with pictures and descriptions.

#### Brain

- [Plastic Brain Outsmarts Experts](#) – An interesting perspective on “fluid intelligence”, apparently an aspect of

intelligence that can be improved by training.

- [Scientists build mind-reading computer](#) – In an effort to better understand the brain, scientists have created a computer that can (sort of) read your brain.
- [Drugs to Grow Your Brain](#) – There are now drugs that can grow new brain cells, something previously thought impossible. This might present an alternate treatment for several diseases.
- [Melding Mind and Machine](#) – Brain machine interfaces might someday help people with severe paralysis move their limbs.

#### Data Mining

- [The End of Theory: The Data Deluge Makes the Scientific Method Obsolete](#) – In this fascinating article from Wired, the case is made that with today’s overwhelming processing power available and the ability to search through massive data files, the scientific method is no longer the best approach. (NOTE: This argument is similar to one I have often made in class about the use of neural networks and evolutionary algorithms which rely on massive processing power rather than analytical approaches.)

#### Data Visualization

- [Interactive software that replicates animal dissections allows students to skip real thing](#)

– The virtual ability to dissect animals has reached a tipping point. Students now can learn more from the virtual dissection than from a real one. Not all agree with the approach as mentioned in this article.

### [Decision Making](#)

- [Is Google Making Us Stupid?](#) – Interesting perspective on how using Google for our research is causing a sea change in the way we read and think.

### [Educational Technology](#)

- [Skills Evolution: A vision of the future of workplace skills](#) – This tremendous report (with accompanying video) investigates what workplace skills will be needed in the future. There is an excellent graphic available as well as well thought out essays in the report.

### [Future](#)

- [The Future of the Web](#) – The views of several excellent futurists are contained in this article about what the web will resemble in 5 to 10 years.

### [Genetic Algorithms](#)

- [Evolutionary algorithms now surpass human designers](#) – Evolutionary algorithms continue to make progress, especially in dealing with problems such as design. They are well-suited for this kind of problem. (NOTE: I like the software Gene Hunter from [Ward Systems](#) which I use in my classes for Genetic Algorithms.)
- [Websites evolve like living organisms to suit users](#) – Another interesting application of evolutionary algorithms. (NOTE: Full access to the article requires a subscription, but you can get the summary for free.)

### [Information Overload](#)

- [University of California to Study How Much Information is in the World](#) – Even though we have had several recent studies on this subject, another one will begin to update our

latest measures. The amount of information being created is overwhelming.

- [Info Overload: The Problem](#) – Well thought out post outlining the Information Overload problem very well. NOTE: There is a link to part 2 of this post.
- [Too Many Choices, Too Much Content](#) – Want more evidence of Information Overload (glut?). This very well written post will enlighten you about the details and why we are all suffering from overload.

### [Information Visualization](#)

- [C-Shirt: Remixable T-shirts by Mobile Phone](#) – Innovative idea portrayed here consisting of creating t-shirts with scannable code so that others who like the shirt can immediately order one!
- [Flexible computers use displays with any shape](#) – You may soon be able to put a computer on almost anything. See this article for several examples of how “flexible” computers are coming.

### [Intelligent Agents](#)

- [Peter Gabriel launches The Filter](#) – A new service is now available to help “filter” your entertainment links. More of this type of assistance is undoubtedly on the horizon.

### [Knowledge Management](#)

- [Freebase](#) – Freebase is a new form of information collection, mostly developed by users. The concept is fascinating, but will only succeed if users contribute content. Check the FAQ’s for more information.

### [Kurzweil](#)

- [The Future Is Now? Pretty Soon, at Least](#) – As always, I heed what Ray Kurzweil has to say about the future. His track record is amazing, and he is probably the best at what he does.

### [Manufacturing](#)

- [Prototype of machine that copies itself goes on show](#) – The new methods of

manufacturing continue to emerge. Here is an example: a machine that can copy itself. Much more of this will emerge with the continued development of Nanotechnology.

### Medical

- [The good news in our DNA: Defects you can fix with vitamins and minerals](#) – As the cost of sequencing your DNA continues to drop dramatically, other interesting findings are occurring. In this article, scientists have found that some flaws in your DNA can be fixed by vitamins or mineral supplements!
- [Heart Surgeons as Video Gamers](#) – It turns out that playing video games is good training for becoming a heart surgeon. (NOTE: Several years ago, I was allowed to try heart surgery on a virtual patient using the latest Virtual Reality approach---very realistic indeed!)
- [University of CA-Merced launches six telemedicine centers](#) – Telemedicine continues to advance. This article details how underserved communities are now gaining access to medical care through telemedicine centers.
- [Consumable Camera to Offer Intestinal Tour](#) – Advancements in miniaturization now allow for a disposable camera to be used to view the intestinal system of a patient in detail to assist in diagnosis.
- [Free medical tool tackles disease](#) – There is now an open source tool for developing a health records system to help treat diseases of the poor.

### MISC

- [The Singularity: A Special Report](#) – I have mentioned many times before how important the concept of the Singularity is as it pertains to our future. IEEE has published a tremendous issue devoted to the concept. Many excellent articles are contained in this free online publication. (NOTE: A link to a video by Vernor Vinge, creator of the Singularity concept, is also included.)

- [Software that permits tourists to customize their visits according to their preferences](#) – Yet more customization is occurring, this time in vacations and trips. Using AI techniques, software can help you plan your trips.
- [Smart CCTV cameras will hear and see](#) – Not only can these cameras take pictures, they can also 'hear' noises associated with violence, and automatically swivel to record the event.

### Nanotechnology

- [New Insights on Nanotechnology \(audio file\)](#) – Listen to the latest developments in the world of Nanotechnology. Many new breakthroughs continue to occur.

### NLP

- [Long-Promised, Voice Commands Are Finally Going Mainstream](#) – Tremendous new developments in the capabilities of computers to “understand” our speech. These developments have long been promised, but are now starting to occur.

### RFID

- [NIST/NIH micromagnets show promise as colorful 'smart tags' for magnetic resonance imaging](#) – Microscopic RFID type sensors can now be injected to add “smarts” to MRI scans.

### Robots

- [Microrobots dance on something smaller than a pin's head](#) – Microscopic robots crafted to maneuver separately without any obvious guidance are now assembling into self-organized structures after years of continuing research led by a Duke University computer scientist.
- [The Flight of Dragonfly Robots](#) – The development of very small robots continues. In this article, robots resembling dragonflies (with all of the advantageous aerodynamics) are being developed.

### Sensors

- [The Coming World of Mobile Sensors](#) – Sensors are not only becoming extremely small, but also wireless and mobile.
- [The future according to Freescale:1,000 embedded devices per person](#) -- I have long preached about the day when sensors will be embedded in almost everything, leading to a world where “everything is known about everything”.
- [New wireless sensor network keeps tabs on the environment](#) -- Here is one example of a wireless sensor network beginning to take on a key responsibility, in this case collecting and reporting important environmental data from all over the world.
- [Official launch of the Top 100 Australian Web 2.0 Applications list](#) – Many applications of web 2.0 technologies are included in this extensive list. You might find some of interest.
- [Find Pick-Up Basketball Games, Find Players](#) – Social networks for many purposes are beginning to emerge. This example shows how realtime information can be shared for a community purpose. Although you might not be interested in pickup basketball, the concept is very interesting and has other applications.

### Virtual Reality

- [Paralysed man takes a walk in virtual world](#) – As predicted, the use of virtual reality to assist those with disabilities will be an early use of the technology.
- [Virtual Walt Disney World Added To Google Earth](#) – If you have not yet seen it, please take a moment and check out the virtual Disney World---absolutely fascinating, even in 3D.
- [Virtual technology to boost success rate of clinical trials](#) – The use of virtual technology, to include a virtual human, will help pharma companies to predict effect of medicines before these are tested on people. By 2020, through virtual technology assisting pharma R&D, cost of clinical trials would be slashed, the process and time taken shortened, while success rate will dramatically increase.
- [Telstra chief hosts conference as hologram](#) – The world of telepresence continues to expand. Check out this fascinating report on an example full body projection in real time. Although expensive and difficult currently, this might portend how we meet in the future.

### Web 2.0

- [Part I: The Business of Social Networks](#) – Ever wonder how Social Networks can be monetized? This excellent article gives