

# E.I.T. Links

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

“Everything that can be invented has been invented”  
 ~Charles H. Duell, director of the US Patent Office, 1899.

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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 April 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

#### Brain

- [Let Computers Compute. It's the Age of the Right Brain.](#) – The right brain, focused on creativity and innovation, is becoming the most important side. Harder to outsource the right brain apparently.
- [Pentagon Seeks Battlefield Device to Diagnose Brain Injury](#) – Many brain injuries are not diagnosed quickly, especially on the battlefield. This can lead to more permanent injuries and/or debilitation. This new approach will allow for near instant diagnosis, even on the battlefield.
- [Want to Remember Everything You'll Ever Learn? Surrender to This Algorithm](#) – There is an interesting explanation of this algorithm which alleges to turn people into geniuses. SuperMemo is based on the

insight that there is an ideal moment to practice what you've learned.

#### Chatterbots

- [Ben Franklin Bot](#) – This is one of the latest chatterbots, one which knows much about Ben Franklin. Many “historical” bots are being created to somehow bring these historical figures back to life.

#### Data Mining

- [Precision Medical Data Mining](#) – CureHunter is the only fully integrated scientific search, data retrieval and analysis engine on the web that can read the entire US National Library of Medicine Medline Archive and automatically extract and quantify the evidence for successful clinical outcomes of all known drugs for all known human diseases.
- [Footprint Employee Data Services](#) – There is now a service which leverages the web to help vet employment candidates. This service finds candidate data from many sources and consolidates them.
- [A New Approach to Content Management](#) – This new service utilizes AI techniques to keep up-to-date on millions of healthcare products, thereby assisting healthcare organizations in developing improvements in how they manage their organizations.
- [Warning on Storage of Health Records](#) – As health records become more and more

automated, there is a need to understand fully the dangers associated with this development.

### [Future](#)

- [Being Human: Human Computer Interaction in 2020](#) – An excellent report on the human computer interface developments planned for the next several years. This report is extremely well done. (NOTE: A free hard copy of the full report can also be requested in addition to the free download.)
- [The Future is Now](#) – An interesting perspective on just how fast things have changed. This article will remind you of the fast track that technology is on.
- [Six Technologies with Potential Impacts on US](#) – This outstanding report has just been released. Read to see what the six technologies are. There are detailed appendices on each technology, showing what applications are possible, what advantages and disadvantages exist. Also, includes excellent graphics.

### [Information Overload](#)

- [Content Is Becoming a Commodity](#) – Another great posting about information becoming a commodity. I am a big believer that context is trumping content. NOTE: The Read/Write Web posts are some of my favorites.
- [Too many choices -- good or bad -- can be mentally exhausting](#) – More studies are showing that as the number of alternatives available increases, decision making becomes more difficult. Another reason for using a good Decision Support System to help with this overload situation.
- [Internet to hit full capacity by 2010](#) – As I have discussed before (see previous newsletter), there is a lot of concern about the capacity of the internet being exceeded soon.

### [Information Visualization](#)

- [Google, U.N. unveil project to map movement of refugees](#) – Internet search giant Google Inc. unveiled a new feature last week for its popular mapping programs that shines a spotlight on the movement of refugees around the world.
- [Taking Apart the Livescribe Pulse](#) – This technology is very interesting. Livescribe Pulse is a computerized pen that records as you write and digitally syncs the audio recording to the notes.

### [Innovation](#)

- [Gartner Identifies Seven Grand Challenges Facing IT](#) – Looking for the next great project. Here, the Gartner group identifies 7 of them.
- [25 leading-edge IT research projects](#) – Likewise, there are many interesting projects already in progress. Several very interesting ideas under exploration.

### [Kurzweil](#)

- [Making the World A Billion Times Better](#) – My favorite futurist, Ray Kurzweil, never fails to amaze me. Here is his latest article about how there could be a billion-fold increase in capability in the next 25 years.

### [Machine Learning](#)

- [Microsoft Introduces Tool for Avoiding Traffic Jams](#) – A new machine learning application that learns to plan traffic routes. The new service will on occasion plan routes that might not be intuitive to a driver. For example, in some cases Clearflow will compute that a trip will be faster if a driver stays on a crowded highway, rather than taking a detour, because side streets are even more backed up by cars that have fled the original traffic jam.

### [Manufacturing](#)

- [Manufacture and Sell Anything — in Minutes](#) – Welcome to the age of the

instapreneur. With nothing more than a design, amateurs can manufacture jewelry, robots, T-shirts, furniture — anything. No warehouses. No minimum orders. And no money down.

- [Open source 3D printer copies itself](#) – As mentioned several times before, the manufacturing world is about to undergo a tremendous change. The latest example is the RepRap (Replicating Rapid-prototyper) printer which can replicate and update itself. It can print its own parts, including updates.

### Medical

- [Snakelike Robots for Heart Surgery](#) – Yet more progress in the world of minimally invasive surgery, this time for heart operations.
  - [No More Blind Spots](#) – Entering the final stages of testing are eye drops which eliminate cataracts without surgery. As before with laparoscopy, this will change markedly how cataracts are treated. Keeping up with developments like this are critical in all industries.
  - [Live to 150, Can You Do It?](#) – If you did not see the Barbara Walters special on living to 150, you should consider purchasing the DVD copy. I watched it and found it very factual and scientific about the tremendous advances in medicine that could very likely result in much longer life spans.
  - [Nano Drugs to Starve Tumors](#) – The developments in nanotechnology continue to amaze. This time drugs that can attack tumors while sparing healthy cells.
  - [Targeted Delivery for Nanoparticles](#) – Similarly to the above, nanoparticles are being developed to deliver drugs only to cancerous cells.
  - [Nanofibers Heal Spinal Cords](#) – Still more on how nanotechnology progress is showing up in medical applications. An engineered material that can be injected into damaged spinal cords could help prevent scars and encourage damaged nerve fibers to grow.
- [Laser medical scan does away with biopsies](#) -- A new medical imaging technique can reveal the chemical make-up as well as the shape of structures inside the body. It provides a non-invasive way to get information about tumours or other disease sites normally only accessible by biopsy.

### Miscellaneous

- [The State of the Global Telecosm](#) – One of my favorite futurists is George Gilder. He specializes in the telecosm future. Once laughed at during the telecosm bust, George Gilder has now been proven to be a prophet. Read for the latest update.
- [Coming Soon, to Any Flat Surface Near You](#) – Pint-size digital projectors are in the works. These devices, when plugged into cellphones and portable media players, will let consumers beam video content from their hand-held devices to the closest smooth surface — entertaining themselves, annoying their neighbors and possibly contributing to a new warning sign: No Projectors in This Area.
- [Experts hack power grid in no time](#) – A team of other experts took a day to set up attack tools they needed then launched their attack, which paired social engineering with corrupting browsers on a power company's desktops. By the end of a full day of the attack, they had taken over several machines, giving the team the ability to hack into the control network overseeing power production and distribution.
- [Microsoft creates 'instant backing band' for singers](#) – Whether you're a frustrated songwriter or a shower-time crooner, you may long to hear your lyrics put to music. New software from Microsoft promises to provide just that – instant musical accompaniment to singing.
- [Intelligent paint turns roads pink in icy conditions](#) – No more guessing if the road is icy. This new temperature sensitive paint will tell you.

### Nanotechnology

- [Hydrogen Storage In Nanoparticles Works: Outlook For Hydrogen Cars Improved](#) – Hydrogen storage in nanoparticles has now been proven. The outlook for a hydrogen based fuel is substantially improved.
- [As nanotech goes mainstream, 'toxic socks' raise concerns](#) – There are dangers associated with nanotechnology, primarily the possible ingestion of very small particles into the lungs.
- [Once bitten ...](#)—Nanotechnology continues to make inroads into nanofoods which can be engineered to have different attributes. Imagine a bowl of ice cream that has no more fat than a carrot? Or eating a burger that will lower your cholesterol?
- [New nanotech products hitting the market at the rate of 3-4 per week](#) – Still think that nanotechnology is only making slight progress? The truth is that nanotechnology products are hitting the market in ever increasing numbers.

### **Quantum Computing**

- [Outrit breakthrough brings quantum computers closer](#) –Quantum computing promises to revolutionize the industry if proven to work. Progress is now occurring.
- [Uncle Sam searches for a quantum leap](#) – DARPA's quantum research program is called QuEST - short for Quantum Entanglement Science and Technology. It wants to offer research grants for projects which address "the nature, establishment, control, or transport of multi-qubit entanglement."
- [Toward a Quantum Internet](#) – The The promise of quantum computers is tantalizingly great: near-instantaneous problem solving, and perfectly secure data transmission. Northwestern University has taken a step toward making quantum computing more practical with the development of a quantum gate.

### **Robotics**

- [MIT develops advance humanlike robot](#) -- Like something straight out of the movies,

MIT's NEXI body has human-like expressions and speech, which is either really cool or really creepy.

- [Is Robot Evolution Mirroring the Evolution of Life?](#) – According to Hans Moravec, our robot creations are evolving similar to how life on Earth evolved, only at warp speed. By his calculations, by mid-century no human task, physical or intellectual, will be beyond the scope of robots.
- [Robotic pen guides the hand of the blind](#) -- A "force-feedback" pen has been developed to help blind and visually impaired children write clearly and consistently by gently guiding their hand.
- [Climbing robot throws its weight around](#) – A four-limbed robot climbs vertical walls using foot- and handholds like a human climber. The technology could be used to scale Martian cliffs to find exposed rocks and reveal new information about the planet's geology.
- [BRITISH TEAM WORKING ON INTER-ACTIVE ROBOTS](#) (video) – Technological progress has seen the development of robots that can mimic human beings in almost every way, from speech to movement. But one of the biggest challenges facing scientists has been creating robots with emotional intelligence. One British University, however, is at the forefront, working to create interactive companions that can emotionally engage with humans.
- [Tiny robotic hand has the gentlest touch](#) – A tiny pair of robotic tweezers with the most sensitive grip yet can pick up and move individual cells without damaging them, guided by their own sense of touch. They could be used to probe the properties of living tissue, or create microscale and nanoscale devices.
- [Robot Dials 9-1-1](#) – Researchers designed a two-wheeled robot, known as uBOT-5, with two arms capable of picking up small objects, using a stethoscope and even dialing 9-1-1. Sensors near its video-screen head can also figure out if someone has fallen.

- [If you want a robot to react, test the brain](#) – Imagine a robot that can not only use sensory perception but also learn from its environment and adjust its actions to suit.

### Search Engines

- [A New Search Engine Paradigm for Charting and Analysis of Statistical and Numerical Data](#) – The ChartSearch Intranet platform generates context specific visualizations of the searched numerical data, so that analysis and presentation of this information is both intuitive for the user as well as their internal or external audiences.

### Semantic Web

- [Start making sense](#) – Automating the marking up of web pages to help make the Semantic web realized is beginning to happen.

### Sensors

- [A Training Tool for Athletes](#) – Tiny sensors continue to show up in amazing places. This application shows how sensors are assisting volleyball athletes by providing information and feedback.
- [Devices That Track Every Precious Need](#) – Tracking devices and sensors are being combined to track almost everything. Here is the latest on several applications.
- [My Life in a Video Game \(Batteries Not Included\)](#) – As the boundary between the real world and virtual worlds continues to blur, the concept of embedded sensors to control your avatar continues to develop.
- [New nanotube sensor can continuously monitor minute amounts of insulin](#) – A new method that uses nanotechnology to rapidly measure minute amounts of insulin is a major step toward developing the ability to assess the health of the body's insulin-producing cells in real time.
- [Laptops as Earthquake Sensors](#) -- Earthquake researchers in California hope to take advantage of the motion sensors in laptops to create an earthquake-sensing

network.

### Virtual Reality

- [Matrix-style virtual worlds 'a few years away'](#) – Virtual worlds realistic enough to be mistaken for the real thing are just a few years away.
- [Dreaming of a 3-D Web](#) – Now a company is beginning a private test of its service on Facebook this week, wants to offer 3-D chat rooms and social environments on any blog, Web site or social networking page.
- [One Avatar, Many Worlds](#) – An avatar, the image a person uses in a virtual world, is currently bound to the particular world in which it was created. But at the Virtual Worlds Conference 2008, several companies showcased their efforts to allow people to carry their avatars from one virtual world to another, and even out onto ordinary Web pages.
- [Peer-to-Peer Virtual Worlds](#) – Handling large numbers of virtual entities can be a problem. A new approach, using peer-to-peer networks appears promising to overcome this limitation.

### Wearable Computers

- [Computerized Combat Glove](#) – Now a startup based in Cambridge, MA, has developed a sensor-embedded glove that allows the soldier to easily view and navigate digital maps, activate radio communications, and send commands without having to take his hand off his weapon.

### Web 2.0

- [How Web 2.0 Can Reinvent Government](#) – Web 2.0 has now begun to spread within the government. Some ideas on how web 2.0 technologies can help reinvent the government are included in this article.
- [Science 2.0 – Is Open Access Science the Future?](#) – Science is also beginning to see the value of web 2.0 collaborative technologies to leverage the expertise of

many experts.