

E.I.T. Links

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

“The future should be something we deserve, not something which is
 reached at the rate of 60 minutes per hour.”
 - Anonymous

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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 Feb 2012, and all of the links were working at time of publication.

Remember, all links mentioned here and all prior newsletters are available at:
<http://www.steveknode.com/>

Anyone seeking more frequent updates can follow my ‘tweets’ via my twitter account,
<http://www.twitter.com/sknode>

I am now “blogging” at my blogspot account,
<http://sknode.blogspot.com/>.

Links for this Issue

AI General

- [The Algorithm-Driven Dr. House Won't Be Seeing You Soon](#) – Doctors will become bionic clinicians by teaming with smart algorithms. Eventually the best doctors will be artificial intelligence (AI) systems — software minds rather than human minds.

However, the progress will not be smooth or quick, according to this report.

- [Will Artificial Intelligence be America’s Next Big Thing?](#) – In the next decade, the United States will use increasingly capable artificial intelligence (AI) to greatly reduce the cost of health care, accelerate research and development into new medicines, improve cars and roads to reduce gridlock, and even regain much of the manufacturing base we lost to countries like China.
- [Embodiment, Computation And the Nature of Artificial Intelligence](#) – The notion of intelligence makes no sense without a broader view of computation, argues one of the world's leading AI researchers.
- [Invention to help organize raw materials for \\$10M robot](#) – A high-tech scientific instrument that uses artificial intelligence to check the lab's library of compounds for samples that have passed their sell-by date.
- [Guarding Ground Zero: A look at the amazing and terrifying artificial intelligence that will protect the new World Trade Center](#) – The rebuilding of the World Trade Center also reestablishes it as Target #1 for would-be terrorist. To combat this gruesome threat, the Port Authority of New York and New Jersey, and other WTC shareholders, are pulling all the stops to build a state-of-the-art surveillance system that aims to prevent a repeat of the September 11 attacks.

Apps for Smartphones and Tablets

- [Best News and Weather Apps for Your Android Tablet](#) – Here are some of the best news and weather apps for smartphones.
- [The Best Android Tablet Apps for Reference](#) – Here are some of the best apps for reference using Android tablets.
- [5 free Android security apps: Keep your smartphone safe](#) – Here are some apps that can keep your smartphone safe.

Artificial Life

- [The Secret of Ant Transportation Networks](#) – Just how ants create the highly efficient network of trails around their nests has never been fully understood. Now researchers think they've cracked it

Brain

- [Zap your brain into the zone: Fast track to pure focus](#) – Whether you want to smash a forehand like Federer, or just be an Xbox hero, there is a shocking shortcut to getting the brain of an expert.
- [ADVENTURES IN BEHAVIORAL NEUROLOGY—OR—WHAT NEUROLOGY CAN TELL US ABOUT HUMAN NATURE](#) – The brain is a 1.5 kilogram mass of jelly, the consistency of tofu, you can hold it in the palm of your hand, yet it can contemplate the vastness of space and time, the meaning of infinity and the meaning of existence. It is truly the greatest of mysteries. The question is how does it come about?
- [Your Life is an Algorithm, Your Brain is an Operating System](#) – We are entering a new era where the algorithm rules. Algorithms are what determines what search results you see with Google or what shared items pop up in your Facebook feed. Algorithms are what make artificial intelligence possible. Once you are able to reduce elements of your physical, real-world life into a series of 1's and 0's, you can take advantage of a new tools that promise to go beyond just curating elements of your life – they actually include the instructions for completing simple,

everyday tasks.

- [Computer modeling: brain in a box](#) – Henry Markram's controversial proposal for the Human Brain Project (HBP) — an effort to build a supercomputer simulation that integrates everything known about the human brain, from the structures of ion channels in neural cell membranes up to mechanisms behind conscious decision-making — may soon fulfill his ambition.

Chatterbots

- [Hold Your Own Presidential Debate with Virtual AI Representations of the 2012 US Presidential Candidates.](#) – Artificial intelligence company Zabaware, Inc. launches www.askthecandidates2012.com - a political site allowing visitors to stage their own presidential debate where questions are answered by virtual representations of the 2012 US presidential candidates using actual quotes.

Data Mining/Business Intelligence

- [Data Analysis for the People](#) – Wolfram Alpha can now analyze data you provide, so you can do things like map out your e-mail relationships.
- [Watson's New Job: IBM Salesman](#) – Although limited trials using Watson technology are underway in health and financial services businesses, the AI prodigy is having its biggest impact by pulling in new customers for existing business products—as IBM persuades them to organize their data into formats that an AI like Watson can better understand.

Educational Technology

- [3D And Haptics In Education](#) – Several interesting applications of 3D or Haptics are highlighted in this article.
- [Blooms Taxonomy of Apps](#) – Many smartphone and tablet apps are categorized based on Bloom's taxonomy.

- [2012 Horizon Report for Higher Ed](#) – The always insightful yearly report from Horizon is now available for download.
- [Thinking Inside the Box](#) – Discover how New York City's iSchool transformed a 19th century space into a true 21st century learning environment

Future

- [Accenture Technology Vision 2012](#) – A look at Accenture's vision of the most important technology trends for 2012.
- [Technology-Driven Trends for 2012](#) – To stay competitive, your organization needs to anticipate the future technology trends that are shaping your business and then develop innovative ways to implement them in your organization.
- [The top 10 emerging technologies for 2012](#) – The Global Agenda Council on Emerging Technologies presents the technological trends expected to have major social, economic and environmental impacts worldwide in 2012.
- [Will we ever... grow organs?](#) – The goal is deceptively simple: build bespoke organs for individual patients by sculpting them from living flesh on demand. No-one will have to wait on lengthy transplant lists for donor organs and no-one will have to take powerful and debilitating drugs to prevent their immune systems from rejecting new body parts.
- [Yahoo interactive visualization of how they deliver their information.](#) – Yahoo has a very dramatic visualization of the large amounts of data they deliver.
- [Artist's Time-Lapse Map of the World's 2053 Nuclear Explosions \(video\)](#) – In 2003, Japanese artist Isao Hashimoto created a time-lapse video map of every nuclear bomb explosion in the world between 1945 and 1998. There were 2053 explosions in that time, including the tests that the United States made during the "Manhattan Project" and the bombs dropped on Hiroshima and Nagasaki that ostensibly ended World War II. The 14-minute long video (below) is a beautiful and terrifying look at the nuclear era that defined world politics, warfare and humanity for more than half a century.
- [Cartographies of Time](#) – Selections from a captivating history of timelines---from time circles to time dragons, to a history of the world drawn on a single piece of paper.
- [Scientific Storytelling Using Visualization](#) – This article discusses how to use visualization to tell a good story, and tell it well. In particular, it emphasizes scientific storytelling—telling stories using scientific data—which is a topic that the visualization research community has paid little attention to so far.
- [Visualization of War Casualties from Iraq and Afghanistan](#) – Compelling visualization of all US casualties from Iran and Afghanistan with many aspects portrayed.
- [CommentSpace](#) – CommentSpace is a tool for community exploration of data. Using it, you can view datasets, collect interesting views of the data, and discuss it with others.

Information Visualization

- [Launching a Democratization of Data Science](#) – It's a sad but true fact that most data that's generated or collected—even with considerable effort—never gets any kind of serious analysis. But in a sense that's not surprising. Because doing data science has always been hard. And even expert data scientists usually have to spend lots of time wrangling code and data to do any particular analysis.

Innovation

- [Obama & Romney Inching Closer to One Touch Donations with Square](#) – Politico reports that both the Romney and Obama campaigns have started using Twitter co-founder Jack Dorsey's "magical" dingle, Square. Of course, you can't pay by saying your name as you now can at select merchants, but Square still makes campaign

donations much faster and easier.

- [Anybots Now Offering AnyLobby Robotic Staffing Service](#) – Anybots is offering an entirely new service called AnyLobby that leverages the telepresence capabilities of QB to offer full-time telepresence staff to companies who might not otherwise be able to afford a real live human.

Intelligent Agents

- [When Bots Go Mad](#) – There may or may not be robots that are truly "good" someday, but there will probably be bad robots, if there aren't already. If not bad robots, then bad robot situations. You can catch a taste of the feeling of what might go wrong in the robot pricing wars that elevate the cost of certain used books on Amazon into millions of dollars.

Knowledge Management

- [Cracking Open the Scientific Process](#) – Advocates for "open science" say science can accomplish much more, much faster, in an environment of friction-free collaboration over the Internet. And despite a host of obstacles, including the skepticism of many established scientists, their ideas are gaining traction.
- [The Transparency Granade](#) – Equipped with a tiny computer, microphone and wireless antenna, the Transparency Granade captures network traffic and audio at the site and securely and anonymously streams it to a dedicated server where it is mined for information.

Kurzweil

- [The Six Epochs from The Singularity is Near](#) – Video of Ray Kurzweil's six epochs from his book, "The Singularity is Near".

Machine Learning

- [An Israeli professor's 'Eureka' moment](#) – Haifa-born Prof. Hod Lipson and his

colleagues have created a computer program that generates mathematical formulas which explain various scientific phenomena.

- [Autonomics Will Change The Future Of Office Work \(Ask Siri\)](#) – Autonomics encapsulate a range of artificial intelligence characteristics, such as observing and replicating processes performed by humans and communicating with solutions employed at other businesses for assistance. Some take approaches which can best be described as akin to a human immune system, applying different remedies to an error and logging what is effective for future use, alerting the owner for intervention only when all other options have been exhausted. The result is a newly shaped office of the future, including redefined roles for both departments and employees.
- ['Genius' computer with an IQ of 150 is 'more intelligent' than 96 per cent of humans](#) – A computer has become the first to be classed as a 'genius' after scoring 150 in an IQ test. The average score for people is 100. A score of 150 ranks the artificial intelligence programme among the top four per cent of humans. The programme uses a mixture of mathematical logic and 'human-like' thinking, enabling it to outperform previous software on IQ tests.

Manufacturing

- [Sculpteo Takes 3D Printing to the Cloud](#) – A French company that is betting on an impending revolution in manufacturing, and building the 3D-printing infrastructure to help make it happen.
- [Making Solar Power Competitive with Coal](#) – By the end of the decade, manufacturers in the United States could make solar panels that are less than half as expensive as the ones they make now. That would be cheap enough for solar power to compete with electricity from fossil fuels, according to a new study in Energy & Environmental Science.

Medical

- [Understanding Your Tests](#) – This webpage will explain and help you understand medical test results.
- [The Patient of the Future](#) – Internet pioneer Larry Smarr's quest to quantify everything about his health led him to a startling discovery, an unusual partnership with his doctor, and more control over his life.
- [Technological Healing](#) – A leading researcher says digital technologies are about to make health care more effective. But is so much data really beneficial?
- [Tiny, implantable medical device can propel itself through bloodstream](#) – Electrical engineers demonstrated a tiny, wirelessly powered, self-propelled medical device capable of controlled motion through a fluid—blood more specifically. The era of swallow-the-surgeon medical care may no longer be the stuff of science fiction.
- [E-prescription systems may reduce costly and dangerous medication-related errors](#) – Over the course of the last several years, e-prescription systems have emerged as an alternative method for entering drug orders. With an e-prescription system, the healthcare provider enters the medication order into the computer, the order is received by the pharmacy, and the medication is dispensed.

Military

- [A Military Robot that Does It All](#) – With the launch of the Warrior, a large wheeled robot with a hefty mechanical arm, military robots just got significantly larger and more adaptable. The robot rides on caterpillar tracks like a tank. It can climb stairs and cover rough terrain, and perform tasks ranging from the delicate (opening car doors) to the destructive (smashing car windows) with its two-meter-long mechanical arm.
- [Pentagon's Project 'Avatar': Same as the Movie, but With Robots Instead of Aliens](#) – According to the agency, “the Avatar program will develop interfaces and algorithms to enable a soldier to effectively partner with a

semi-autonomous bi-pedal machine and allow it to act as the soldier's surrogate.”

MISC

- [Web-based counseling -- Telepsychiatry -- is taking off](#) – More bandwidth, better security, and emerging video technology are making telemedicine more acceptable to doctors, patients.
- [Thinking Cities \(video\)](#) – Ericsson's Networked Society Program has produced a second documentary, which is available for viewing by ReadWriteWeb readers a day before it is released publicly. The documentary series and program are attempts by the Swedish telecom company to investigate larger ideas, ones that affect how technology is created and used.
- [How mobiles of the future will get under our skin](#) – Hammond envisages the candy bar-sized phones and shiny tablets of today being broken into separate components. Fashionable spectacles will provide the visual display, earring studs the audio. A third device will provide touch input.
- [Fancyhands website](#) – Fancy Hands is a team of human personal assistants ready to work for you right now.
- [MathLan develops an intelligent timetable planner](#) – The Bilbao-based MathLan consultancy and engineering, specialising in mathematics and artificial intelligence, has drawn up intelligent timetables, the main advantages of which are their rapid call-up and their efficiency. MathLan Matematika has designed a tool to solve the difficulties faced by business companies and government bodies when drawing up plans for work shifts, timetables and schedules.

Nanotechnology

- [DNA robot could kill cancer cells](#) – DNA origami, a technique for making structures from DNA, may be more than just a cool design concept. It can also be used to build devices that can seek out and destroy living

cells. The nanorobots, as the researchers call them, use a similar system to cells in the immune system to engage with receptors on the outside of cells.

- [Spray-on Nanoparticle Mix Turns Trees Into Antennas](#) – A small company based in Utah has developed a nanoparticle mix that can be sprayed on any vertical object—like a tree—and make that object act as a high-powered antenna. Not only can the sprayed-on nanoparticles make trees into antennas, but it can also extend the range of an existing antenna by a factor of 100.

Quantum Computing

- [Quantum dots control brain cells for the first time](#) – In an unlikely marriage of quantum physics and neuroscience, tiny particles called quantum dots have been used to control brain cells for the first time. Having such control over the brain could one day provide a non-invasive treatment for conditions such as Alzheimer's disease, depression and epilepsy. In the nearer term, quantum dots could be used to treat blindness by reactivating damaged retinal cells.

RFID

- [Antennaless RFID Tags Developed At NDSU Solve Problem Of Tracking Metal And Liquids](#) – A typical RFID tag is made up of an integrated circuit (IC) and an antenna. Many don't work well on metal objects or on containers filled with liquid. Previous attempts to solve this problem have resulted in bulky tags that are easily destroyed by routine handling. Researchers have developed a patent-pending novel approach, with an antennaless RFID tag, allowing for an inexpensive and manufacturable product tracking solution that meets EPCglobal Standards.

Robots

- [This Robotic Black Box Will Make Your Life Warmer](#) – Hagant, as the robot is called, has some wheels, some sensors, and a big pile of phase-change material. Phase-

change material (or PCM for short) is something that stores or releases energy when it changes from a solid to a liquid (or any other combination of phases) or vice versa. The robot can sense heat (like an oven, a fire, or anything else), and when it does, it drives over and hangs out, letting its pile o' PCM suck down as much energy as possible. Then, it'll follow you around, acting like a little space heater as its PCM re-solidifies, up until the PCM has emitted all of its stored up heat.

- [Robots Aboard the International Space Station](#) (video) – NASA's doing a good job of keeping the International Space Station well-stocked with robots just in case there's a surprise alien invasion.
- [Tiny Robotic Bee Assembles Itself Like Pop-Up Book](#) – Harvard University engineers have come up with a production technique inspired by pop-up books and origami, that allows clones of tiny robots to be mass-produced in sheets. The Harvard Monolithic Bee (or Mobee), for example, turns from a flat shape into a 2.4-millimetre-tall robot in just one movement — just like a pop-up book. The folding process takes less than a second.

Sensors

- [Nest & The New Era of Home Appliances](#) – Over the coming decade, we're going to see a lot of new Internet-connected household devices that will literally change the way you live. A great example is a new device from a very well-funded startup called Nest Labs. At the end of 2011, the company released a Web-enabled thermostat called the Nest. Yes, a thermostat.
- [Smart paint could revolutionize structural safety](#) – An innovative low-cost smart paint that can detect microscopic faults in wind turbines, mines and bridges before structural damage occurs is being developed by researchers at the University of Strathclyde in Glasgow, Scotland. The environmentally-friendly paint uses nanotechnology to detect movement in large structures, and could shape the future of safety monitoring.

- [A mobile device for preventing and treating drug use](#) – Imagine a device combining sensors to measure physiological changes. Then imagine a smartphone with software applications designed to respond to your bodily changes in an attempt to change your behavior. That is the vision behind "iHeal," currently being developed¹ by Edward Boyer from the University of Massachusetts Medical School in the US, and his colleagues.
- [Wireless Implant Meters Drug Doses](#) – Smart medical implants can now dispense drugs into the bloodstream as a result of wireless signals sent to it from the doctor's office. A thumbnail-sized microchip containing multiple drug reservoirs has now passed clinical trials in which a wireless signal was used to release precise daily doses, instead of requiring patients to inject themselves with the drug. The technology could help patients who require frequent or daily injections.
- [Self-Driving Tech Veers into Mid-Range Cars](#) – Fully autonomous self-driving cars are still far from the market, but a wide range of features—including sensor systems that warn of lane departures and imminent crashes, and can even apply the brakes if you don't—are rapidly showing up in midmarket cars.

Virtual/Augmented Reality

- [Blippar website](#) – Blippar™ is the first image-recognition phone app aimed at bringing to life real-world newspapers, magazines, products and posters with exciting augmented reality experiences and instantaneous content. The company launched in the UK in the Summer of 2011 and will be expanding globally throughout 2012.
- [The Lens Of The Future Sees Much More Than What's In Front Of You](#) – Augmented reality is a term for technologies that soup up our view of the real world with an overlay of virtual information. Think Terminator vision. So far, augmented reality has been largely limited to marketing gimmicks and iPhone apps. But a Washington-based company

called Innovega is working with the Department of Defense on a project that could make it much more practical.

- [Augmented reality promises astronauts instant medical knowhow](#) – A new augmented reality unit developed by ESA can provide just-in-time medical expertise to astronauts. All they need to do is put on a head-mounted display for 3D guidance in diagnosing problems or even performing surgery.
- [Surfing in 3D](#) – With XML3D, Web developers will be able to develop 3D applications for any Web browser – quickly and easily. They will be able to embed 3D content in Web pages with the same ease with which they currently embed YouTube videos.
- [Google to Release Augmented Reality Glasses](#) – Later this year, Google will begin selling eyeglasses that work like transparent computer displays, allowing users to see all the information currently accessed using smartphones. Location information, such as GPS and motion sensors, will figure prominently in the new technology.

Web 2.0

- [Hoo-ah: How the US Army Has Become a Social Media Leader](#) – Over the past several years, the US Army has developed an exemplary program in exploiting numerous social media methods, and done so without a lot of flash, expense, or personnel. They have an engaged audience, numerous followers, and maintained a multi-pronged campaign into all of the major social media networks, including recent beach-heads in Pinterest and Google+.