

# E.I.T. Links

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

“So often do the spirits of great events stride on before the events. And in today already walks tomorrow.” – Samuel Taylor Coleridge

## Brain

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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 Aug 2013, 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/>.

- [IBM researchers get closer to brain-like computing](#) – IBM researchers say they have whipped up a programming language, algorithms and applications to deploy on top of a computing system inspired by the human brain.

## Educational Technology

- [Educational Calculator Makes Students Think](#) – A calculator yields answers but not necessarily understanding. Using one takes little or no proficiency in math, which may discourage students from acquiring that skill. So in a world where calculators are ubiquitous, how do you encourage mathematical understanding? Now, there is a calculator that requires the user to understand the problem.
- [Educational Calculator's Instructional Video](#) – This video shows how to employ the educational calculator.

## Future

- [DARPA to Genetically Engineer Humans by Adding a 47th Chromosome](#) – The agency hopes that development of a new chromosome will allow a solution to the limitations of current “state-of-the-art” gene transfer technologies (including plasmids, adenovirus, lentivirus, and retrovirus vectors).

### Links for this Issue

#### Apps for Tablets and Smartphones

- [Bump](#) – Send files, videos, photos, everything from your phone to your computer or vice-versa with just a “bump”.

### Information Overload

- [New tools to manage 'information overload' threatening neuroscience](#) – A UCLA team has invented research maps. Easily accessible through an online app, the maps help neuroscientists quickly scan what is already known and plan their next study.

### Innovation

- [Here's what connected cars will be doing by 2020](#) – Will the connected cars of 2020 offer night vision, automatic alcohol detection via breath monitors, virtual driving simulations, and advanced lessons (remotely administered) to practice our reaction times when safely parked in the garage? The Internet of things has come to the car industry in a big way, unlocking the possibility of all manners of innovation and evolution.
- [Devices Connect with Borrowed TV Signals, and Need No Power Source](#) – A novel type of wireless device sends and receives data without a battery or other conventional power source. Instead, the devices harvest the energy they need from the radio waves that are all around us from TV, radio, and Wi-Fi broadcasts.

### Intelligent Agents

- [What Makes The Moto X The Smartest Smartphone Around](#) -- How about a phone that learns about what you want, where you are and responds to your gestures, commands and wishes?

### Knowledge Management

- [What Google Knows About You](#)—Imagine there is a list somewhere that contains every single webpage you have visited in the last five years. It also has everything you have ever searched for, every address you looked up on Google, every email you sent, every chat message, every YouTube video you watched. Each entry is time-stamped, so it's clear exactly, down to the minute, when all of this was done.

### Kurzweil

- [The Singularity Of Ray Kurzweil](#) – Whatever happens with machine intelligence and the interplay of computer systems with human nervous systems, one thing is for certain: technology is going to change human life in enormously important ways, and fast. In this video, you can listen to Ray Kurzweil explain the Singularity and see if his predictions are believable.

### Manufacturing

- [How 3-D Printing Body Parts Will Revolutionize Medicine](#) – In two decades, 3-D printing has grown from a niche manufacturing process to a \$2.7-billion industry, responsible for the fabrication of all sorts of things: toys, wristwatches, airplane parts, food. Now scientists are working to apply similar 3-D-printing technology to the field of medicine, accelerating an equally dramatic change. But it's much different, and much easier, to print with plastic, metal, or chocolate than to print with living cells.
- [5 Ways That Today's Culture Will Impact Product Designs Of The Future](#) – From molecular design to circular economies, things that are on the cutting edge now will be built in to things we buy every day in the future. The 5 Ways: 1) Circular Economies; 2) a Connection between Producer and Consumer; 3) Sustainable Materials; 4) Design at the Molecular Level; 5) More Information Means Better Decisions.
- [What happens when you mash up 3D printing and Amazon's same-day delivery?](#) – They say waiting to get something is often more enjoyable than actually getting it. That's not how Jeff Bezos sees it. In the last few years, the Amazon.com founder has been in relentless pursuit of a lag-less future, one where you barely have enough time to utter the word "shipping" before your package arrives. In this utopia, deliveries take place in a matter of hours, not days. To make it a reality, Bezos is bringing the full power of Amazon's supply-chain

resources to bear.

### Medical

- [Consumer Genetic Test Can Predict Your Drug Response](#) – A personal genetics startup thinks that there is one set of DNA variants that everyone should know: the ones that help determine how you respond to drugs. A New Jersey-based startup wants to provide a \$99 test that will tell customers, based on their genetics, if they should take a nonstandard dose of a drug because their body will break it down faster or slower than most people. In some cases the test might suggest a particular drug someone should take or avoid.
- [Can medical tricorders disrupt global healthcare?](#) – Designed to disrupt global healthcare, the Scanadu Scout is a small sensor-loaded device designed to measure everything from body temperature to heart rate variability to blood oxygenation. It's scheduled to ship in March 2014, and the price for early investors ranges from \$149 to \$199 for the Scout hardware plus Scanadu's mobile app. When combined with smartphone apps, the Scout is meant to help individual consumers make medical decisions based on new data-driven insights.
- [New inhalable insulin could free diabetics from shots](#) – A new inhalable insulin powder that's more effective than injected and oral treatments could be available as early as next year.

### MISC

- [A Conversation with Eric Schmidt](#) – A fascinating and insightful interview with Eric Schmidt, executive Chairman, Google and author of "The New Digital Edge: Reshaping the future of people, nations and business".
- [2013 Hype Cycle for Emerging Technology](#) – Since the mid-90s Gartner has been releasing its "Hype Cycle for Emerging Technologies" report to chart the way people perceive technology. According to the report, by observing how emerging

technologies are being used by early adopters, there are actually three main trends at work. These are *augmenting humans with technology* — for example, an employee with a wearable computing device; *machines replacing humans* — for example, a cognitive virtual assistant acting as an automated customer representative; and *humans and machines working alongside each other* — for example, a mobile robot working with a warehouse employee to move many boxes."

### RFID

- [Artist Embeds RFID Chip in His Hand to Spread GIF Art](#) – Anthony Antonellis marked another milestone for the body-hacking movement, implanting an RFID chip encased in glass into his hand. The tiny chip can transmit an animated GIF that he's stored in it through a tiny antenna. He can swap out the image it carries and transmits.

### Robots

- [A personalised robot companion for older people](#) – A highly customizable robot companion designed by EU-funded researchers to offer support to older people is currently being presented across Europe and could find its way into people's homes within two or three years, potentially greatly enhancing quality of life for older citizens and people with memory or mobility problems.

### Sensors

- [More Connected Homes, More Problems](#) – As a growing number of Internet-connected home appliances hit the market, David Bryan and Daniel Crowley worry that digital ne'er-do-wells will get new ways to take control of these devices, unlocking your house, running up your heating bill, flushing your toilet—or worse—from afar.
- [A Blueprint To The Internet Of Things: Bump's David Lieb](#) – We know what the future looks like---or we have a pretty good cheat sheet, anyway. More than half of the

people in the U.S. are carrying around computers smaller than a deck of cards. Devices have started studying their owners like an alien race, jotting down observations about their habits, crunching the numbers. At the stuttering dawn of the Internet of Things, those same devices are talking to each other and comparing notes.

### **Simulation/Games**

- [Playing classic Pacman using Universal Artificial Intelligence](#) – Interesting video demonstrating how the use of Artificial Intelligence can be incorporated into an optimal strategy for something as complex as Pacman.

### **Virtual/Augmented Reality**

- [Virtual Tour Guide May Be Killer App for Google Glass](#) – Google has released a Google Glass version of its free iPhone and Android app Field Trip, which acts as a tour guide by offering location-based alerts to teach you about things you may be passing, such as historic sites. While people have always been intrigued by Google Glass and the benefits it may bring users (on-the-fly directions, searches, Web surfing, etc), this is the first application for which it really does make more sense to wear a head-mounted gadget rather than simply looking at a smartphone.
- [Intel to narrow the gap between virtual and reality](#) – Computers that have a sense of the physical world around the machine - potentially with the capacity to understand your emotions - will arrive as soon as next year. The movement of your eye, gestures, sensors, and voice commands could all become part of a user interface - perhaps even working in unison. That would give digital personal assistants such as Apple's Siri or Google Now the ability to be even more responsive. The lines between our lives and augmented reality are blurring as machines understand more about our world.