

# E.I.T. Links

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

“It has become appallingly obvious that our technology has exceeded our humanity.”  
 –Albert Einstein

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### *Editor's Note:*

The recent months were an extremely busy period for news. There were many very interesting items, now posted at the website and included here. NOTE: My podcast of the news items should be available beginning in December 2006. This newsletter may be redistributed as long as it is left intact. New subscribers can join by sending an email to [steve@steveknode.com](mailto:steve@steveknode.com)

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

#### Virtual Reality

- [Harvard to Offer Its First Course in a Virtual World](#)– Those of you who are familiar with the online virtual world, [2<sup>nd</sup> Life](#), will appreciate that a mark of maturity, a sign that you are doing something right, is when Harvard uses your venue. As a member of the 2<sup>nd</sup> life community, I can assure you this will be an interesting course.

#### Sensors

- ["Nana-technology" Tools Help Seniors be Independent](#) – Yet another growing sign of the pervasiveness of sensors is shown in this
- [A Question of Mind over Matter](#) The use of sensors to allow better control over prosthetics is also expanding. In this interesting article, the progress is

article. Using such sensors to assist the elderly will be big business.

- [Robotic Bears Can Monitor Sick Kids](#)– As a contrast to the use of sensors to monitor and assist the elderly, here is an article showing how the pervasiveness of sensors has spread to the monitoring of sick children. This sensor-laden teddy bear is just one of many “medical communicators” that will allow for 24/7 health monitoring soon.
- [Sensor Network Takes to Sea](#) – Still another use of sensors---putting them into the sea to monitor and report on conditions. These sensor buoys can control their own battery power, figure out what data to send and how to send it, automatically!
- [Executive Summary from Accenture](#) – Want to know more about sensors? Like to hear how the future will unfold with sensor proliferation? Read this excellent executive summary from Accenture.
- ["Living Chip" Changes Science of Disease Monitoring](#) Although it sounds like science fiction, the use of implanted chips in humans to detect physiologic and chemical changes in people and give advance warning of diseases is now becoming a reality. Sensors detect minor, but significant changes much earlier than normal procedures.

documented. According to the article, in about two years the sensors will be implanted into the users' brains to allow for a seamless interface. Users will control their prosthetic devices just with thought!

## Nanotechnology

- [Nanotech and the Changing Face of the Electric Utility Industry](#) - An excellent article detailing how the successes of nanotechnology are already impacting the electric utility industry. Lots more like this will be forthcoming as nanotech continues to evolve.

## Neural Networks

- [URA Pilots E-filing System that "learns" from Human Decision-making](#) – Neural networks continue to expand in use. This neural network system "learns" from humans to evolve a better automatic electronic filing system. It learns new filing systems as well as resolving conflicts in the system.
- [Accuracy, Automation, Artificial Intelligence: An All-In-One Approach to Revenue & Labor Management](#)– In this example of neural networks at work, predicting room occupancy, revenues, and automating labor scheduling are all being done by neural networks---and with much more accuracy than humans!

## Robots

- [Independent Robots Team Up for Search Task](#) – Something new for robots is the area of teaming up to share information and coordinate their actions. In this article, robots know what is going on by sharing information. A video is included at the website.
- [Robonaut](#)—NASA is working hard on creating a robotic astronaut which will ultimately be used much as human astronauts are today.

- [Printable Robots](#) -- 3D printers are now on the horizon. These printers could drastically reduce the cost of developing many items. Printing skin, communications devices, displays, even muscles can now be done.
- [Military Robo-surgeon Prepares for Battle](#)— Saving lives in combat zones is going to be part of the mission of portable robotic surgeons. Remotely operated by humans, these surgeons can be quickly brought to the wounded soldier.

## Natural Language Processing

- [The Inner World of Ripley the Robot](#) - Rather than attempt to program robots with speech understanding, this approach allows a robot to learn language in the same manner as children. Check out the success story thus far!
- [Smarter Call Centre Automation for Public Administrations](#) - Natural language is being used to make call centers more friendly and easier to use. Automatic understanding of the requests allow for quicker responses.
- [A Sentinel to Screen Phone Calls](#) - This automated system can analyze callers' voices and word usage to determine who is calling and whether a call is urgent. It can then forward the call automatically.
- [Computers Write News at Thomson](#) - The Thomson company has automated systems that can write financial stories as accurately as humans.

## Decision Support Systems

- [Revolutionizing Football](#) – A new software program allows for instant analysis of critical play calling decisions involving football games. Calculations are performed in real time, before the next play.

## Data Mining

- [Rule Discovery System](#) – A system that can automatically discover prediction rules is now available for free. The business model

is interesting---you only pay for actual predictions you use.

- [UCI Researchers 'text mine' the New York Times](#)—This automated datamining approach can do in hours what it would take humans months to do---namely, extract useful information from unstructured text.

## Brain

- [Emotion Rules the Brain's Decisions](#) – No surprise here, apparently the emotive side of the brain dominates. If you are familiar with the book, [Decision Traps](#), then you understand how and why emotion dominates intellect in the decisionmaking process. Framing, the number one decision trap, is featured in this article.
- [In 2021, You'll Enjoy Total Recall](#)—More progress in the ability of our brains to remember everything---it's coming!

## Future

- [Ian Pearson, Futurologist: The ITWales Interview](#)— One of my favorite futurists, Ian Pearson, gives a very informative and provocative interview about the future. He also discusses how he makes his predictions and keeps up with developments.

## Information Visualization

- [Take the power of Google Maps with you on your mobile phone](#)— Google has added its fantastic mapping capability to cell phones now. You can get traffic, directions, etc. on your cell phone.
- [A Closer Look at Windows Live Local](#)— Microsoft has its own version of mapping software ready to compete with Google. Check out the features in this article.

## RFID

- [US Begins Rollout of RFID Passports](#) – Another step for RFID being everywhere. This article describes how RFID chips are

beginning to show up in passports. The privacy implications are one of the concerns.

## Quantum Computing

- [Quantum Computing Video](#) – One of the most important, yet difficult to understand, developments on the horizon is quantum computing. Such an important subject is perhaps better explained via videos, of which this is an excellent one.
- [Quantum Leap](#)—An excellent article about the future of quantum computing. Starting with a futuristic scenario, this article goes on to show how pervasive quantum computing will be.

## Search Engines

- [AOL Podcast Search](#)— This search engine can now find words or terms within podcasts. As podcasts rapidly grow in number, this approach has tremendous value.

## Wearable Computers

- [Seeing by Sound](#)— This new approach, using wearable computers, transforms cityscapes into soundscapes to help blind people make more sense of their environment.

## Medical

- [Double Amputee Uses Thought-controlled Arm](#)— This rather dramatic article shows how the future is arriving quickly, in this case allowing for an amputee to control his bionic prosthetics via thought.
- [Robot Scientist](#)— We now have a “robot scientist”, capable of automatically performing the proper tests and experiments to help diagnose Alzheimer’s disease. The robot scientist is able to effectively use AI techniques such as machine learning to select the proper tests.
- [Your Bosom Buddy](#)— Here is another example of how AI is being used in the

medical arena, in this case to provide a better diagnosis of breast cancer. This promising approach outperforms humans and is much quicker.

### Fuzzy Logic

- [Artificial Intelligence in Building Automation](#)– This article not only provides a quick course in fuzzy logic, but talks about how it can be effectively used in automating building energy uses.

### Knowledge Management

- [Gurteen Knowledge Management Videos](#)– David Gurteen, publisher of one of my favorite free Knowledge Management newsletters, [The Gurteen Knowledge Letter](#), has added many videos on KM to his website. The website is an excellent source of information on Knowledge Management.

### Chatterbots

- [How To Be Human](#)– Chatterbots continue to emerge and become more “human”. Read this article about the latest winner of the Loebner prize for the most humanlike chatterbot.
- [Would you buy insurance from this Avatar?](#)– At least one company is now creating the sales force of the future, and that sales force is chatterbots!