



AT Bytes

January 2010 Issue

Assistive Technology Initiative

Jen Mundl, Lead Assistive Technology Specialist

Courage Center

www.courage.org

What's New at Courage Center



AbilityBots

Courage Center's Abilitybots Robotics Camp teams called Short Circuit and Lightning won the Spirit Awards at the First Lego League robotics tournament Dec. 12, 2009, at Sanford Middle School in Minneapolis.

Children ages 9-14 of all abilities (those with disabilities and those without disabilities) participated on teams, which were led by Courage Center staff and volunteers along with staff from Twin Cities Tech Connection.

The teams were made possible by grant funding through Cummins Power Generation and the National Science Foundation.



Cummins-Courage Holiday Adapted Toys

Several Cummins and other engineers devoted time to Courage in adapting toys for children and adults with disabilities. This year, the engineers made several new adapted toys including a switch adapted roller blading doll and switch adapted headphones among many other products. The toys were given out to Courage participants and there were many smiles from the children and adults. If you are interested in an adapted toy for a client that

is a client at Courage Center, contact Jeni Mundl at 763-520-0567.



iPod Touch

Courage purchased several iPod Touches to be used with Courage clients. There are many built in disability functions such as a voice reader, Multi-Touch, magnifying glass, and more. These products will be beneficial to individuals with head injuries and other disabilities. In addition, Proloquo2Go™ is a new product from AssistiveWare that provides a full-featured communication solution for people who have difficulty speaking. It brings natural sounding text-to-speech voices, up-to-date symbols, powerful automatic conjugations, and a default vocabulary of over 7000 items, full expandability and extreme ease of use to the iPhone and iPod Touch.

Welcome Back Jen Mundl

Jen Mundl, Lead Assistive Technology Specialist, is back! For the past year, she has been dealing with several medical issues which prohibited her from performing her regular duties at Courage

Center. This means the Assistive Technology Department is up and running strong. There have been recent purchases of new equipment that will enable Courage Center to remain a leader in assistive technology. Everyone has increased their knowledge in serving persons with disabilities that need assistive technology. We welcome challenges of new clients in all our departments that may benefit from compensatory techniques and actual devices or software to improve their independence, education and/or work.

Disability & Assistive Technology Events

Lots of Opportunities

Brain Injury of Minnesota 25th Annual Conference:

The 25th Annual Conference for Professionals in Brain Injury will take place on April 29 and 30, 2010 at the Crowne Plaza in Downtown St. Paul. The Association is now taking applications for presenters for the 25th Annual Conference for Professionals in Brain Injury. Topics of Particular Interest to the Planning Committee include: Sexuality and Dating; Moving from Childhood Brain Injury into Adulthood; Aging and Brain Injury; Co-Occurring Issues; Accessing County Services; Veterans and Brain Injury; Sensory Impairments following Brain Injury; Brain Injury and Domestic Violence; Brain Injuries caused by Sports Concussion; Brain Injuries caused by Stroke.

Charting the Cs:

The second annual Charting the Cs Cross Categorical Conference planning committee seeks presentation proposals from educators and other service related professionals sharing information on effective strategies and practice, including but not limited to assistive technology strategies to support students with disabilities in achieving educational success. Interested presenters should complete and email the form by January 11 from their website to jking@lcsc.org.

Blind Skills: Introducing the New Bookshare

Books Without Barriers Website by Benetech staff once was known as Bookshare continues to provide accessible forms of books for members and students. Members are able to download books on the website and can join the Benetech staff for a complimentary hands-on online event packed with tips to expand your knowledge of the new Bookshare website. www.bookshare.org

In one quick hour you will learn to:

- Use the site's new accessible features
- Find a book with new search and browse features
- Download a book with more streamlined processes
- Use new volunteer features
- Access free reader software

Hot Web Sites



Mobility

Ralph Braun, founder of BraunAbility, specializes in adaptations for vehicles. A born gearhead, Braun got moving by building a battery-powered scooter and, later, a wheelchair lift for his van. Slowly, he turned these innovations into a business with \$200 million in annual sales. Braun eventually closed the

scooter business to focus on the lifts. BraunAbility's Entervan and Rampvan minivans offer ease of access for wheelchair and scooter users. The website offers information about financing and rebates available to persons with disabilities. www.BraunAbility.com.

Hot Technology

Communication



Mount'n Mover:

After several years of development and testing, Blue Sky Designs has developed a new mounting system for many types of devices including communication aids and photography equipment. More information can be found at their website at www.mountnmover.com

Technology for Education Combines with Cadan:

Technology for Education, a special Needs Product distributor was purchased by a large IT company in Eagan, called Cadan Computers, which is a Certified Women's Business Enterprise. Technology for Education is now a division of Cadan, and has a broader array of Special Need Products and also an avenue for IT Products through its parent company, Cadan. Some new products in Special Needs are the Logan Prox Talker, Pogo Communication Boards, Livescribe Smart Pen, Jabbla line of Communication Devices, plus the Chattervox, a voice amplifier and many others, that can be seen their our web site www.tfeinc.com

Vision

Giving Sight to the Blind

Robert Greenberg was doing medical research at the Alfred Mann Foundation when an investor in Mann's cochlear implant company, Advanced Bionics, asked Greenberg to create a similar implant for blind people. Since Greenberg founded Second Sight in Sylmar, California, in 1998, the company has been developing the Argus II, a retinal implant that receives images taken with a video camera mounted on eyeglasses. The images are converted into electronic signals by a processor and wirelessly transmitted to a receiver implanted on the eye. The receiver sends the data through a cable to an array of electrodes, which emit electric pulses that activate cells in the retina, which then sends signals through the optic nerve to the brain. Patients interpret the resulting patterns as low-resolution black-and-white images. Second Sight is testing the Argus II on 32 people in North America and Europe. The company plans to go to market in Europe in 2010 and is seeking FDA approval in the US. The next hurdle will be to persuade health insurance carriers to cover the device, which will cost \$100,000. Source:

<http://www.inc.com/magazine/20091201/innovation-giving-sight-to-the-blind.html>

Accessible PDF Files

An add-in wizard for Microsoft Word that allows users to easily create PDFs that are accessible to people with disabilities has been announced by the document-compliance-management company NetCentric Technologies Inc. The PDF Accessibility Wizard (PAW) for MS Word is an add-in that builds on NetCentric's widely used PDF accessibility tool CommonLook, and will be available online at www.net-centric.com/products/PAW.aspx.

Mobility



The ClickToPhone enables a person who cannot press the keys of a mobile phone to operate the phone with a single switch, a 5 switch device or the joystick on their powered wheelchair. All the phone's functions can be accessed

through the ClickToPhone software. For example the Phone can be answered, the contacts list can be browsed, text messages to be sent etc.

A hardware component is required for switch users. This wireless Bluetooth interface accepts either a single switch input or a 5 switch device such as a TASH mini joystick.

For a powered wheelchair user the mobile phone can be operated without any additional hardware directly from a Genie joystick or Genie+ master remote. More information can be found on this switch option at www.quintet.ie or at Tash.

Learning

The DT Trainer is an evidence-based, direct instructional software program with over 160 curriculum content programs, hundreds of motivating reinforcers, and data tracking/assessment features. It is a highly configurable, behavior-based, affordable instructional tool that allows independent learning for individuals with mild-moderate-severe cognitive and developmental disabilities as well as for typically developing learners. <http://www.dttrainer.com>

Cambium Learning® Technologies and The Max Warburg Courage Curriculum, Inc. are excited to present the 2009-2010 "Courage in My Community" Essay Competition. The goals of this collaboration include engaging students in the reading and writing process; encouraging students to write about their personal experiences with courage; and continuing to integrate technology with English Language Arts curricula. www.courageinmycommunity.com

Learning Opportunities through Sharing Expertise

The Minnesota Assistive Technology Advisory Council was created when the Assistive Technology Act of 1998 was amended in 2004. The goal of this council is to ensure consumer-responsive, consumer-driven advice to STAR (State run program on assistive technology) for planning, implementing and evaluating activities, including setting measurable goals.

The Minnesota Assistive Technology Advisory Council held its first meeting on March 29, 2005. The council currently meets on a quarterly basis to provide guidance on implementing Minnesota's assistive technology plan.

If you would like to share your thoughts and ideas regarding assistive technology, contact the STAR office at 651-201-2640, 1-888-234-1267, or e-mail star.program@state.mn.us, or contact a Council Member.

Important AT Information

Assistive Technology of Minnesota (ATMn) has changed its name to EquipALife. This nonprofit organization provides assistive technology related services and administers Minnesota's micro loan and telework programs. You can learn more about Equipalife by visiting www.equipalife.org.

Windows Tips

Windows 7

Microsoft.com has an excellent video with voice that explains the recent developments with their latest operating system. It discusses the changes that have been incorporated into their latest system and there is information on the accessibility features installed. Windows 7 includes accessibility options and programs that make it easier to see, hear, and use your computer

including ways to personalize your PC. Windows 7 includes significant accessibility improvements. Magnifier now includes a lens mode and full-screen mode. On-Screen Keyboard can be resized to make it easier to see and includes text prediction. Windows 7 also gives you more ways to interact with your PC by taking advantage of new strides in speech recognition and touch technology.

On the Horizon

There are many emerging assistive, medical and standard technologies and trends occurring throughout the world today. This affects every being on the planet. Some technologies, which will change our thinking and challenge our beliefs, are as follows:

From Organizations to Networks

The pace of growth of virtual work is phenomenal. By the end of the decade close to half the workforce will be working independently, often across national boundaries. Companies will function on social networks and gaming platforms, professionals will work for many firms or clients. Traditional organizations will be gradually supplanted by shifting networks of expertise and resources.

Exponential Bio Technologies

Now that biological and genomic technologies are largely driven by information technologies, they are on the same exponential trajectory. Medicines personalized to the individual, genetic modification of our children, drugs to increase intelligence, and life extension will all become commonplace.

Robotic intelligence

Many decades of predictions will finally be matched by technological developments in fields such as language recognition and spatial navigation to create a world in which physical robots and virtual agents interact with us and do our bidding. Household robots, voice conversation bots, and emotional robots that we bond with will be part of our everyday lives.

Augmented Humans

More than ever before, we can transcend our *human* abilities. Traditional memory aids are supplemented by augmented reality glasses or contact lenses, thought interfaces allow us to control machines, exoskeletons give us superhuman power. Machines will not take over humanity... because they will be us.

Robotic Surgeries

Robots will assist surgeons rather than replace them in the operating room. In the future, surgeons will use robotic instruments and wireless search-engine technology as readily as they use any other tool. These enhancements will enable them to feel and visualize the area of surgery more fully while performing delicate, life-or-death procedures.

Customized Pharmaceuticals

We will see drugs individualized according to a patient's genome. These drugs will be both safe and effective, but the overall market will become fragmented due to individualization. Pharmaceutical firms may find themselves less profitable or with limited growth opportunities under these scenarios. If so, they may diversify into other industries, such as cosmetics, veterinary medicine, clinical laboratories, and industrial agricultural chemicals.

Stem Cells

Embryonic stem cells will help the fight against Alzheimer's disease. Scientists in the United Kingdom have succeeded in growing brain and lung tissue from embryonic stem cells. The

researchers believe that the new technique for growing brain tissue will eventually help doctors build replacement neural or brain matter for people who suffer from Parkinson's and Alzheimer's diseases. A 2003 Swedish study estimates that Alzheimer's disease afflicts 27.7 million people globally.

Nature Deficit Disorder

Children's "nature deficit disorder" is a growing health threat. Children today are spending less time in direct contact with nature than did previous generations. The impacts are showing up not only in their lack of physical fitness, but also in the growing prevalence of hyperactivity and attention deficit. Studies show that immersing children in outdoor settings — away from television and video games — fosters more creative mental activity and concentration.

Enhanced Brain Function

Look for cell-based computing and microchip-enhanced brains. New research fusing electronic microchips with living brain cells could one day lead to chip implants to combat neurological disorders. Connecting neurons to semiconductors successfully is the key to future breakthroughs in human-computer synthesis.

Autism

As autism diagnoses continue to rise, an alarming new statistic indicates that autism is now diagnosed in one out of every 91 children, instead of one out of every 150 children as previously thought. The increase in autism diagnoses presents a significant challenge for school systems, which already face limited resources as they seek to educate children with the neurological disorder.

Multi-media Changes the Way Children Learn

Sometimes barred from the classroom owing to perceptions of security risks and student "distractions," smart phones and iPods are now making their way into the K-12 space, and with teachers' and administrators' blessings. The fact that most smart phones come with wireless capabilities and larger screens makes them particularly relevant in the K-12 space.

E-books

In the future, you'll listen to books and read your cell phone. Half of Japan's top 10 best-selling books last year started out as cell phone-based text message novels. A Japanese author became a cross-continent media sensation when a novel he originally texted into his cell phone sold more than 3 million copies as a printed book.

E-Book readers aren't going to replace traditional math and English textbooks anytime soon, but J. Gerry Purdy, chief analyst, mobile and wireless, for business research and consulting firm Frost & Sullivan in Atlanta, said the devices would gain traction in the K-12 arena this year. While eBooks would literally lessen the load that students have to carry around with them in backpacks all day, Purdy said, the devices aren't "quite there yet" when it comes to color, graphics, and symbols. "The eBook readers are mostly black-and-white right now," he added, "but when the technology advances to the point where color and animation can be integrated, it will become much more viable for the textbook market." E-book sales brought in \$13.9 million in revenue in the third quarter of 2008, according to International Digital Publishing Forum, a trade organization. The same time period in 2009 saw \$46.5 million in e-book revenue -- a 235 percent spike.

Netbook Functionality Will Grow

One-to-one computer initiatives are proliferating throughout United States schools and are expected to become even more popular in 2010 as netbooks become even more affordable. Priced at \$200 to \$300, these small, inexpensive computers are helping to bridge the technology

divide that exists at those schools where individual students don't have access to their own laptops.

More Teachers Will Use Interactive Whiteboards

Large, interactive display systems that allow teachers and students to work together in ways that traditional blackboards could not are gaining ground in the K-12 environment. Expect the trend to continue this year, said Sheryl Abshire, chief technology officer for Calcasieu Parish Public Schools in Lake Charles, LA.

Smartphone Craze

By the end of 2009, having a basic cell phone wasn't good enough anymore. Now the standard is a smartphone -- a mobile phone that also acts as a computer -- and links its users to Facebook, Twitter and the rest of the digital universe. Despite the economic recession, the smartphone market expanded. It was fueled in part by the popular iPhone but also by an increasingly diverse set of smartphone choices, including the Droid, BlackBerry and Pre. Smartphone sales worldwide for 2009 were up 24 percent compared with 2008, according to Gartner Inc., a research company.

Facebook Grows Up

2009 was the year of the Facebook mom and grandma. Founded in 2004 for college students, the online social network exploded in 2008 and might have been expected to level off this year. Instead, it went global and expanded into new and older demographics. About 70 percent of Facebook's users now live outside of the site's home base in the United States, according to statistics released by the company. The site's importance in our lives grew in tandem with these demographic shifts. Facebook now has more than 350 million users -- that's more people than live in the United States and is more than double the 150 million people who were on Facebook at the start of the year. Half of Facebook users log on to the site at least once on any given day; the average Facebook user spends nearly an hour a day on the site.

Games Leave the Living Room

Remember the days when people played video games on huge TVs in their living rooms? That was 2008. 2009, gaming became mobile and social. Instead of hovering around an Xbox or a Wii, it was cooler this year to plant virtual vegetables in FarmVille or run a mobster empire in Mafia Wars -- two games that run through the social network Facebook. The iPhone and its cousin, the iPod Touch, also became popular mobile gaming platforms, shaking up the idea that video games must have great graphics and be backed by huge entertainment companies to succeed. Many of the year's popular phone-based games cost less than a buck.

Resources

Work Trends: <http://browse.workliteracy.com/2010/technology/trends/>

Popular Science: <http://www.popularscience.com>

Tools for Schools: <http://www.eschoolnews.com/emails/esntools/esntools123009.htm>

K-12 Technology: <http://thejournal.com/Articles/2009/12/10/5-K12-Technology-Trends-for-2010.aspx?Page=1>

CNN: <http://www.cnn.com/2009/TECH/12/22/top.tech.trends.2009/>

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