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Special Needs Tech News

A newsletter celebrating enabling technology, the people who use it, and the developers that make it possible.

EDITOR'S CORNER

How do we build greater awareness about accessibility, assistive and special needs technology? It's a question that is frequently asked by people interested in promoting these related fields. This issue of Special Needs Tech News spotlights some resources and news that can help to generate greater awareness.

Whether information is needed by consumers, professionals, funding / policy decision-makers, these resources illuminate the potential of technology in promoting independence and self-determination for people with disabilities.

Please feel free to make complete copies of this publication to share with others.

Send feedback to:

Janet Hopkins, ATP

at_consulting@canada.com

or

at_consultingbc@yahoo.ca

Phone (250) 828-1444

Fax (250) 828-1452

Mail: 2265 MacIntyre Place

Kamloops, BC V1S 1H7

Join the ATCanada Listserv

The ATCanada Listserv was initiated on Dec. 30, 2001. Educators and others can join this free discussion group to learn and exchange information on assistive technology issues. Join at: http://ca.groups.yahoo.com/group/ATCanada or http://ca.geocities.com/janethopkinsbc/

INSIDE

Mouse Tracks

Over the last year I've written articles on special needs technology topics (and other tech topics) for ComputorEdge Magazine in San Diego.

Here are the introductions and links to some of these articles. The links connect to the archived PDF issues online at www.computoredge.com

Forging Access Published in **ComputorEdge** (page 40) September 12,2003, San Diego and Colorado issues

There's no denying that advances in computing accessibility and assistive technologies (AT) have benefited people with disabilities. Today, many individuals with mobility, sensory, communication, cognitive, and learning disabilities use specialized computer software, hardware, and devices to lead more independent lives. Augmentative communication, screen magnification, text-to-speech, and voice recognition technologies are examples of enabling software products available for computer users with special needs. AT enhances access to information providing opportunities for participation, employment, and self-determination for consumers fortunate to acquire this technology.

Unfortunately, many people with disabilities, their families, and the organizations serving them cannot afford the expense of commercially developed proprietary AT software, which may cost hundreds or thousands of dollars. Large and small software companies develop and sell AT for the disability market. Their products are typically compatible with Windows and/or Mac platforms. Many of these products are very good, but the major flaw built into proprietary AT software is that use is frequently restricted to those who can afford it and use Mac or Windows operating systems.

Affordable Open Source Solutions

Fortunately, the open source community is focusing its talent on this problem and creating no/low cost accessibility alternatives. While individual programmers have developed some open source AT software, other accessibility projects involve eclectic teams from large and small tech companies or institutions in collaboration with benevolent hackers and programmers with disabilities. Their efforts are already paying off for people using available open source solutions and will certainly benefit technology companies leveraging UNIX and Linux in the future. (Read the rest of this article online)

http://www.computoredge.com/Archive/Editorial%20Archive/2137.pdf

Open-Source Ergonomics Published in **ComputorEdge** (page 34) February 20,2004, San Diego, CA

The computer is a wondrous opportunity equalizer. Enabling technology helps us to accomplish a great deal. For people who have conditions that interfere with their ability to write and use a standard keyboard, specialized software and hardware options can provide support that allows a person with a disability to share and access electronic information.

Some interesting open source projects have been developed to meet the needs of people with mobility-related concerns and disabilities. (Read the rest of this article online)

http://www.computoredge.com/Archive/Editorial%20Archive/ARCHIVE2208.pdf

Enabling Technology for an Aging Workforce **Published in** ComputorEdge **(page 18) June 11,2004, San Diego, CA**

On average, we're living longer than previous generations. Like it or not, most of us will also end up working years longer than our predecessors. According to the National Center for Health Statistics, life expectancy in the United States rose from 47.3 years in 1900 to 76.9 years in 2000. Government and business leaders in many countries are focusing attention on an aging population and its impact on the workforce. In the United States, the proportion of workers 55-and-older in the labor force is projected to increase from 14.3 percent in 2002 to 19.1 percent in 2012. (Read the rest of this article online)
http://www.computoredge.com/Archive/Editorial%20Archive/ARCHIVE%202224.pdf

PEBBLES: A Robot for School **Published in** ComputorEdge **(page 24) July 23,2004, San Diego, CA**

The PEBBLES robot enables remote classroom participation for hospital/home-bound students. Responding to my June 2004 interview questions, Michael G. McHale, President of Toronto-based Telbotics Inc., explains how "telepresence" meets the needs of students who can't go to school. (Read the rest of this article online)

http://www.computoredge.com/Archive/Editorial%20Archive/ARCHIVE%202230.pdf

Disability Awareness Resource List

http://www.nichcy.org/pubs/bibliog/bib13txt.htm

This is a terrific copyright free fact sheet available through the National Dissemination Center for Children with Disabilities. This online list includes curriculum, book, video, and poster resources.

Product Announcements

MathPlayer 2.0

Design Science has announced the release of version 2.0 of its free MathPlayer mathematics display engine for Microsoft's Internet Explorer 6.0 web browser. MathPlayer enables Internet Explorer to display, and now speak, mathematical notation embedded in HTML and XHTML web pages using MathML. Its new features include math-to-speech technology, compatibility with screen reader software used by the visually impaired to read web pages, increased cross-browser compatibility via XHTML support, and improved mathematical formatting. MathML is an XML-based language for representing mathematical notation standardized by the World Wide Web Consortium (W3C) in 1998.

The accessibility of online content to visually impaired readers is already a requirement in many environments. Section 508 of the US Rehabilitation Act mandates that government web sites be useful to the visually impaired and accessibility is virtually required for online educational material. Visually impaired readers often use software packages, called "screen readers", to speak the content of the web page using a computer-synthesized voice. Until the release of MathPlayer 2.0, screen readers were unable to speak the math embedded in a web page because equations were often merely bitmapped images. Using Microsoft's Active Accessibility (MSAA) interface, screen readers can now take advantage of MathPlayer's math-to-speech technology to read web page text and math together, providing a seamless experience for the reader.

Screen readers known to work with MathPlayer include JAWS, Window-Eyes, HAL, Read & Write, and BrowseAloud. Another MathPlayer 2.0 feature, MathZoom, aids partially sighted readers by providing an enlarged view of an equation whenever the reader clicks on it.

Find out more at http://www.dessci.com

New PDA is the World's Smallest Braille and Speech Device for the Blind

Pulse Data International Introduces First Wireless, Pocket-Sized BrailleNote

CONCORD, Calif., June 29 /PRNewswire/ -- Pulse Data International today introduced the world's smallest handheld Braille device for the blind. The BrailleNote PK weighs less than a pound and has dimensions of 6.8 inches by 3.6 inches by 1.3 inches. It is the first Braille personal digital assistant (PDA) in the marketplace that can fit into a pocket.

"The BrailleNote PK provides blind business professionals with the same kind of personal digital assistance functionalities that sighted business professionals have available to them," says Peter Standish, Chief Executive Officer of Pulse Data HumanWare, Pulse Data International's North American subsidiary. "With BrailleNote PK, the blind business professional is able to connect when they are on the go. This includes connecting to a WiFi hotspot at a cafe or airport, and surfing the Net at high speed to catch up on e-mail. With BlueTooth wireless technology built in, a user can also exchange

information with their personal computer or connect to another larger BrailleNote device."

Adding Bluetooth technology to Pulse Data International's BrailleNote product line provides new options for the blind user. For example, the BrailleNote PK can connect with any other Bluetooth enabled device without extra software or programming. This includes a wide range of wireless devices such as mobile phones, personal computers, headsets, and keyboards.

"This opens up many more choices for the mobile blind business professional," says Peter Standish. "Not only does the BrailleNote PK offers all of the critical personal productivity tools expected in a traditional personal digital assistant, it has an intuitive and efficient environment specifically designed for a blind user."

Key features of the BrailleNote PK include:

-- the most powerful word processor available in any blindness product.
This includes automatic compatibility between all Braille formats and other print-based word processing formats such as Microsoft Word.
-- supports all major POP3 E-mail services -- which makes it easy to manage mail for business and non-business activities on the same tiny device.
-- a daily planner that synchronizes with Microsoft Outlook.
-- an address list that can be synchronized with other Bluetooth enabled devices such as cell phones and personal computers.
-- a media player that allows blind business professionals to listen to audio books or training materials.
-- over 30 hours of battery life.
-- a scientific calculator and a stopwatch.

Pulse Data International expects to ship the BrailleNote PK early in the fourth quarter of 2004.

About Pulse Data HumanWare
Pulse Data HumanWare is a wholly owned subsidiary of Pulse Data International of Christchurch, New Zealand. Established in 1988, Pulse Data has established a strong reputation for producing innovative low vision and blindness products that combine high quality and excellent performance with user-friendly features and outstanding reliability. Pulse Data HumanWare specializes in assistive technology for persons who are print impaired due to blindness, low vision, or learning and reading disabilities.

In Observance of National Disability Month in October, P.O.V. Broadcasts

'Freedom Machines,'

a Look at Disability Through the Lens of Technology, Tuesday, Sept. 14 on PBS

An Independent Television Service (ITVS) Co-presentation

NEW YORK, Sept. 9 /PRNewswire/ -- High school student Latoya Nesmith of Albany, N.Y., dreams of becoming a translator at the United Nations as she completes her classroom assignments using a keyboard that mitigates her limited dexterity. Floyd Stewart, paralyzed in mid-life by a car accident, uses assistive technologies to run Middle Tennessee's Center for Independent Living. Blind physicist Dr. Kent Cullers taught computers to "hear," and now leads the Search for Extraterrestrial Intelligence (SETI) Institute in Palo Alto, Calif. Susanna Sweeney-Martini is completing her college education in Seattle with the aid of a power wheelchair and voice-input software.

These are a few of the people whose stories anchor Jamie Stobie and Janet Cole's Freedom Machines, a

new documentary having its broadcast premiere Tuesday, Sept. 14 at 10 p.m. (check local listings) on PBS's acclaimed non- fiction series P.O.V. This thought-provoking film looks at people labeled as "disabled," whose determination to gain access to inventive new technologies is transforming their lives and communities. To commemorate the 14th anniversary of the signing of the Americans with Disabilities Act, the Department of Commerce, Department of Education and the White House recently held a screening of Freedom Machines..

Freedom Machines is not a profile of "unusual" people who have "overcome their disabilities" or succeeded "despite" their physical conditions. Rather, in showing what is possible, the film asks viewers to question accepted ideas of what "disability" means. Access to assistive technologies is set in the context of civil rights and public policy.

Who has access to technology and who doesn't? What decisions do we make about the design of our buildings, streets, transportation, and media? Who bears the costs? Do we see assistive technologies as burdensome disability devices, or, as inventor Dean Kamen says, "enabling devices?"

Freedom Machines shows what is possible now and in the near future. But liberating new technologies remain out of reach for many of America's 54 million disabled. As Jackie Brand, founder of the Alliance for Technology Access and mother of a woman profiled in the film says, "It's terribly frustrating to look at something that you know would change your life so enormously, and know it's not to be had."

The lives of the people in Freedom Machines underscore the fact that the promises of 1990's landmark Americans with Disabilities Act, which mandated equal access to education, employment, and other essential activities and services for the country's largest minority, remain largely unfulfilled. The benefits of new technology, laws, and design concepts are held hostage to lack of funding, information, and political will.

As a result, society as a whole misses the chance to maximize human potential and productivity. Freedom Machines explores the concept of "universal design" (UD), which employs technology and architecture to make environments adaptable to the particular needs and abilities of a wide range of individuals. In doing so, UD is breaking down social distinctions. The simple curb cut, once controversial, today facilitates the movements of mothers with baby carriages, delivery people with carts, even skateboarders, along with wheelchair users.

Narrated by actor Peter Dinklage, star of the film The Station Agent, Freedom Machines is a timely and dramatic look at technology's new "enabling" wonders, and at the contradictions that prevent their full employment. Freedom Machines dares to envision a genuinely inclusive community, one that benefits from its unique members contributing at their full capacity.

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ASSISTIVE TECH EDUCATIONAL CONSULTING
at_consulting@canada.com
or
at_consultingbc@yahoo.ca

Contact Information:
Janet Hopkins
Assistive Tech Educational Consulting, 2265 MacIntyre Pl., Kamloops, BC V1S 1H7
AT_Consulting@Canada.com

FOR IMMEDIATE RELEASE

Two New Resources Published in the United States and Canada

KAMLOOPS, BC – Janet Hopkins, a Kamloops-based educator, writer, and assistive technology practitioner is a contributing author and solo author for two recently published assistive technology resources.

·Hopkins was commissioned by the National School Boards Association (NSBA) in the United States to write the lead chapter for the book, *Technology for Students with Disabilities: A School Leader's Resource Guide.*

The Alexandria, VA-based National School Boards Association is a not-for-profit Federation of state associations of school boards across the United States. Hopkins wrote chapter one of the NSBA's new book, published May 2004. The chapter, Using Technology to Support Teaching and Learning for Students with Disabilities, provides basic information about assistive technology and its importance in improving learning outcomes for students with disabilities. *Technology for Students with Disabilities: A School Leader's Resource Guide* is written for school board members, superintendents, technology coordinators, and other educators. It is available through the NSBA Web site http://www.nsba.org publications link.

·Hopkins also authored the online project *Assistive Technology (AT) to Support Students with Special Needs* funded through Toronto-based Curriculum Services Canada (CSC). This resource was published in June 2004 on the CSC Web site and is accessible to educators across Canada and beyond. This project received coverage in the Toronto Star
http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1090447812869&call_pageid=970599109774&col=Columnist989556577025

Curriculum Services Canada is a not-for-profit, charitable organization providing services to teachers, educational authorities, and publishers. CSC is the Pan-Canadian standards agency for the accreditation of educational resources. *Assistive Technology (AT) to Support Students with Special Needs* is a 16 page document covering introductory information on the role of AT in education, international trends, the status of K-12 AT service delivery in Canada, acquisition and integration issues, and disability-specific content with supporting hyperlinked Web resources.

Hopkins' CSC project provides information for educators, administrators, and school districts about the challenges and rationale for providing equitable access to AT for students with special needs across Canada. Hopkins' AT project met the standards set by Curriculum Services Canada to receive the CSC Seal of Quality. Assistive Technology (AT) to Support Students with Special Needs is available online at http://www.curriculum.org/tcf/teachers/projects.shtml More information about CSC is available at http://www.curriculum.org

Janet Hopkins is a BC Certified teacher and a RESNA Certified Assistive Technology Practitioner. Hopkins is the author of ***Assistive Technology: An Introductory Guide for K-12 Library Media Specialists*** *(Linworth Publishing, 2004) available through http://www.Amazon.com and http:// www.Amazon.ca*

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