

NEWS AND NOTES FROM

THE FAMILY CENTER ON TECHNOLOGY AND DISABILITY

JANUARY 2003



Issue 11

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Universal Design

The Family Center's January newsletter is devoted to the concept of Universal Design. Universal Design has been defined by its advocates at North Carolina State University's Center for Universal Design as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." Throughout the U.S. – and in Europe – organizations and institutions are examining Universal Design technologies and investigating the most efficient methods of their general implementation in architectural and educational projects.

Universal Design Principles Apply to Education Too

When most of us think of Universal Design, we envision special walks, ramps, curb cutouts and other design technologies aimed at accommodating various physical disabilities. However, as you will read in our lead article from the Simon Technology Center of the Parent Advocacy Coalition for Educational Rights (PACER)-- a Family Center Partner – the principles of Universal Design are also incorporated into accessible educational technology. As a prologue, we list the generally accepted principles of Universal Design.

Info-ROM 2002

In our second article, Family Center Partners and members are featured in Family Center Info-ROM 2002, the brochure alternative that is the subject of our second January article. Info-Rom 2002 provides a tour of the Family Center's web-based offerings, an introduction to organizations that have recently joined the Family Center and to those considering membership.

UD Resources

Following Info-ROM 2002 is a compendium of Universal Design resources that will be useful to families, educators and professionals in their search for more information on the ways in which Universal Design can enhance accessibility now and in the future. Lastly, we turn our spotlight on members of our Knowledge Network that are active in the Universal Design movement.

We Need Your Input

We hope you enjoy the newsletter. We welcome your comments and suggestions. Please share this newsletter with other organizations, families and professionals you believe may benefit from it. We invite you to contact us at <http://www.fctd.info> to offer feedback, become a member and to view, or contribute to, all of the AT information we provide.

Universal Design and Accessible Technology in Schools

Annette Cerreta, PACER Simon Technology Center

Stephanie doesn't need a fancy adaptive device to use a computer at school. This 14-year-old with cerebral palsy takes advantage of built-in software features that make her computer accessible and user-friendly. Operating system accessibility features allow Stephanie, who has limited vision, to enlarge the text and select a high contrast color scheme to see the screen more easily. Stephanie also has difficulty using her hands to type, so she uses Filter Keys, a feature that instructs the computer to ignore accidental keystrokes.

As technology such as computers, the Internet, educational software, and multimedia, are more commonplace in today's classrooms, it is critical that this technology be accessible to students with disabilities. Accessible education technology not only give students with special needs better access to technology used in schools, but it also promotes inclusion of students with disabilities in the general curriculum.

Accessible education technology incorporates principles of universal design. Universally designed products and services are created for use by a wide range of people with different abilities and disabilities. Most of us are familiar with universally designed building features, such as ramps and automatic doors, that provide access to people who use wheelchairs. Universal design concepts can be applied to educational technologies as well. For example, an educational software program that reads text out loud

and provides captioning, accommodates the needs of a variety of learners, such as students with dyslexia and those who are deaf.

Universally designed education technology also provides increased access to the curriculum for students with special needs. An example of this is the availability of digitized instructional materials. A digitized textbook (such as a book on CD-ROM) can be loaded on a computer and modified to meet the needs of individual students. Thus, a student with low vision could increase the font size; a student with severe physical disabilities could turn the page with a switch or other alternative input device; a student with blindness could have the computer read the text aloud; and a student with dyslexia could click on a difficult word to see a definition.

In many cases, accessible educational technology may reduce the need for assistive technology. However, it does not eliminate the need to provide individualized accommodations for students with disabilities. If a student requires assistive technology, such as an alternative keyboard or a screen reading program, accessibly designed technology is generally compatible with these products.

The benefits of accessible educational technology are not limited to students with special needs. Just as parents with baby strollers benefit from curb cuts designed for people who use wheelchairs, accessible education technology is advantageous to students without disabilities as well. For instance, a PowerPoint presentation that contains audio description for students who are blind might also benefit students who are auditory learners.

Schools are beginning to explore strategies to implement accessible education technology in the classroom. This trend is spurred by Section 508 of the Rehabilitation Act that requires electronic and information technologies that federal agencies procure, develop, maintain, and use to be accessible to people with disabilities. While many questions have arisen as to whether this legislation applies to public K-12 and post-secondary institutions, many educational entities have chosen to adhere to information technology accessibility guidelines recommended by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board) www.access-board.gov

How can your organization learn more about accessible technology in schools? Contact the following organizations and websites for more information and resources, and check with schools in your area to find out what they are doing to make technology accessible to all students.

- National Center on Accessible Information Technology in Education (AccessIT)
www.washington.edu/accessit
- PACER Simon Technology Center
www.pacer.org/stc
- Center for Applied Special Technology (CAST)
www.cast.org
- EASI (Equal Access to Software and Information)
<http://www.rit.edu/~easi/index.htm>
- TRACE Center
www.tracecenter.org

- Microsoft Accessibility
www.microsoft.com/enable
 - National Center for Accessible Media
<http://ncam.wgbh.org/>
-
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Info-Rom 2002 is Here: It's More Than a Brochure

An alternative to a standard company brochure, the just-released Family Center Info-Rom 2002 contains a wealth of useable information. Features include a tour of the Family Center's web-based offerings and an introduction to organizations that have recently joined the Family Center and to those considering membership.

Via the Info-Rom interactive table of contents select tutorials on any or all aspects of the Family Center's website, www.FCTD.info. Return to the table of contents at any point in the presentation to access individual tutorials.

Info-Rom chapter-by-chapter highlights include:

Chapter 1 -- *Family Center history and mission* and a summary of FCTD activities.

Chapter 2 – *Family Center website overview* that includes the site's primary features:

- The FCTD Knowledge Network
- A searchable database of 400+ AT resource reviews
- Expert-led, virtual conferences focused on such subjects as AT Funding and AT outcomes
- A large repository of links to other AT resources
- FCTD monthly newsletters

Chapter 3 – *An in-depth website tour* spotlighting information on how to use the AT Resource Review database. Learn how to

optimize search results by using the appropriate search parameters. Participate in a guided tour of an actual database search.

Chapter 4 – *A review of FCTD resource library components.* Get a primer on AT basics with AT 101. Benefit from a comprehensive list of links to other AT-focused websites and to all FCTD monthly member newsletters.

Chapter 5 -- *The FCTD Knowledge Network and member database.* Optimize your search for other members of the Knowledge Network that most interest you. Take a guided tour of a Knowledge Network search.

Chapter 6 – *The Family Center’s virtual conferences.* Discover how to participate in these conferences and how to access archived information from past conferences.

Conclusion – *Become a member.* Find out how to become a Family Center member. Give us feedback.

The current version of the Info-Rom is PC compatible. For information on obtaining a free copy, please send an email to ftcd@aed.org or contact Ana Maria Gutierrez at 202.884.8068.

Universal Design Resources

Adaptive Environments Center (AED)

The Center’s Universal Design-related activities and services include the South Boston Waterfront Project, Designing for the 21st Century Conference, access to Public Schools, New England ADA Technical Assistance Center, universal design education and consulting, design professions and publications. For more information, contact:

Adaptive Environments Center (AEC)
374 Congress St.
Ste. 301

Boston, MA 02210

Phone (voice/TTY): (617) 695-1225

Fax: (617) 482-2099

Valerie Fletcher, Executive Director
vfletcher@adaptiveenvironments.org
<http://www.adaptenv.org>

AARP

The AARP website includes Universal Design and Home of the Future, detailed views, features and interactive views of universally designed homes.

<http://www.aarp.org/universalhome/>

Cornucopia of Disability Information (CODI)

The CODI website is a directory of Universal Design publications, articles and organizations.

<http://codi.buffalo.edu/universal.html>

Concrete Change

An international effort to make *all* homes visitable, through guidelines, national and international laws, Concrete Change advocates the development and use of the most basic accessibility features in residences. Founder Eleanor Smith’s motto is, “Change the things we can.” For more information, contact:

Concrete Change

600 Dancing Fox Road

Decatur, GA 30032

Eleanor Smith, founder

<http://concretechange.home.mindspring.com/>

ConcreteChange@mindspring.com

CPB/WGBH National Center for Accessible Media (NCAM)

NCAM is a research and development facility dedicated to the issues of media and information technology for people with disabilities. NCAM provides resources for software accessibility;

descriptive video services and other multimedia resources. For more information, contact:

National Center for Accessible Media (NCAM)

125 Western Avenue
Boston, MA
Phone: (617) 300-3400
TTY: (617) 300-2489
Fax: (617) 300-1035
Larry Goldberg, Director
<http://ncam.wgbh.org/>

International Center for Disability Resources on the Net (ICDRI)

The ICDRI website features a directory of books on Universal Design.
http://www.icrdi.org/Books/books_on_universal_design.htm

Institute on Independent Living (Sweden)

The Institute's website offers resources for international self-help organizations, global networking, training materials, library, discussion forums and reviews.
<http://independentliving.org>

National Resource Center on Supportive Housing and Home Modifications (NRCHHM)

NRCHHM is a university-based non-profit whose mission is to promote ageing in place and independent living for persons of all ages and abilities. The Center cooperates closely with other groups involved with supportive housing and home modification and a National Advisory Committee to meet four objectives, to provide: 1.) Applied research evaluation and policy analysis; 2.) Training and education; 3.) Technical assistance; 4.) An information clearinghouse. In addition, the Center provides international resources, a directory of home

modification programs, a library, news and links to government and private websites on aging resources and services.

Jon Pynoos Ph.D., Director
<http://homemods.org>
jpynoos@aol.com

National Center on Educational Outcomes (NCEO)

NCEO provides national leadership in designing and building educational "universally designed assessments" with accountability systems that appropriately monitor educational results for all students, including those with limited English proficiency. For more information, contact:

National Center on Educational Outcomes (NCEO)

University of Minnesota
350 Elliot Hall
75 East River Road
Minneapolis, MN 55455
Phone: (612) 626-1530
Fax: (612) 624-0879
Martha Thurlow Ph.D., Director
<http://educaton.umn.edu/nceo>
nceo@umn.edu

Universal Designers and Consultants

The UD&C website is the home of *Universal Design News*, the Images of Universal Design Excellence, various publications, consulting services and resources. For more information, contact:

Universal Designers and Consultants

6 Grant Avenue
Takoma Park, MD 20912-4324
Phone (voice/TTY): (301) 270-2470
Fax: (301) 270-8199
<http://www.universaldesign.com/>
UdandC@UniversalDesign.com

European Institute for Design and Disability (EIDD)

The EIDD website, the home of Design-for-All, *Crisp and Clear* magazine, features links to EIDD affiliates in several European countries.

<http://www.design-for-all.org/>

Design for Our Future Selves – Helen Hamlyn Research Centre (UK)

The Centre explores the practical design implications of key social developments and is the home of the iDesign project, the Design for Aging Network and Royal College of Art design fellowships.

<http://www.hhrc.rca.ac.uk>

DO-IT

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) aims to increase the successful participation of individuals with disabilities in challenging academic programs and in careers in science, engineering, mathematics and technology. The organization is a collaboration of Computing & Communications and the Colleges of Engineering and Education at the University of Washington. Primary funding is provided by the National Science Foundation, State of Washington and the U.S. Department of Education.

For more information, contact:

DO-IT

University of Washington

Box 355670

Seattle, WA 98195-5670

Director, Sheryl Burgstahler, Ph.D.

<http://www.washington.edu/doi/Brochures/Academics/instruction.html>

doi@u.washington.edu

Draware (Ireland)

Housed at University College, Dublin, Draware is an educational research project focused on architectural education.

<http://avc.ucd.ie.DraWare/default.html>

Kyoyo-hin (Japan)

The home of the former E&C Project, Kyoto-hin focuses on design of products and the IPOLOCO standard-setting process.

<http://kyoyohin.org.eng/>

Universal Design Education Online

This website provides information and support to students and educators in their study and teaching of Universal Design. This site is affiliated with the Center for Universal Design at North Carolina State University, the IDEA Center at the University of Buffalo and with the Global Universal Design Educator's Network.

<http://www.udeducation.org/>

Universal Design Network (UD Net)

UD Net is the homepage of the Global Universal Design Educator's Network, a loose coalition of individuals committed to Universal Design education. The site contains a searchable archive of all previous issues of the *Global Universal Design Educator's Online News*, an interactive forum page for discussion and links to key universal design resources.

Elaine Ostroff, Director

*[need director phone #]

<http://www.universaldesign.net>

DRM WebWatcher

Disability Resources Monthly (DRM) is a website produced by Disability Resources, Inc. DRM disseminates information about relevant books, periodicals, videos, government agencies, non-profits, telephone hotlines and online services that provide free, inexpensive or hard-to-find information. The organization is a 501(c)(3) non-profit staffed by a small group of volunteers who monitor various media. Disability Resources does not provide

individual advice, personal assistance or financial support. The Encyclopedia Britannica Internet Guide calls this site a “wonderfully organized site...for cutting through the morass of disability-related material on the Web.”

Julie and Avery Klauber, Co-founders
www.disabilityresources.com

Articles

“Universal Design of Instruction,” by Sheryl Burgstahler, Ph.D.

<http://www.washington.edu.doit/Brochures/Academics/instruction.html>

KNOWLEDGE NETWORK MEMBERS

Bobby

In June 2002, Watchfire Corporation acquired **Bobby** from CAST and assumed responsibility for the continuing development, marketing and distribution for this leading accessibility product.

Founded in 1996, Watchfire provides organizations with comprehensive automated testing, analysis and reporting solutions that can help detect and manage website issues in the areas of accessibility, privacy, content and web application defects and usability.

Watchfire has been committed to assisting companies with website accessibility and compliance. “We have made excellent progress in this area,” Watchfire explains, “but we realized that to fully round out our offering, we needed additional accessibility expertise and technology. By devoting greater resources to further enhancing and developing the accessibility functionality in the Bobby product line, we

will be able to provide our customers with a more complete accessibility solution.”

The company says it will continue to support both the client and free online versions of **Bobby**.

To learn more about **Bobby**, contact:

Watchfire Corporation

200 West St.

Waltham, MA 02451

Phone: (781) 810-1450

Information Line: 1-800-282-5951

Fax: (781) 890-2087

Contact: Sue Ann Wright

bobby@watchfire.com

The Center for Applied Special Technology (CAST)

CAST is an educational, not-for-profit organization that uses technology to expand opportunities, primarily for individuals with disabilities.

CAST has created the Universal Design for Learning (UDL) concept, an approach to teaching, learning and the development of curriculum and assessment. UDL draws on current brain research and new media technologies to respond to individual learner differences. UDL curricula, teaching practices and policies are inherently flexible and therefore may reduce the demand on educators to develop and implement modifications and accommodations to meet individual differences within general education learning environments.

Founded in 1984 by co-Executive Directors Anne Meyer and David Rose, **CAST** initially approached the problem of expanding learning opportunities for people with disabilities by clinical services

and developing assistive technology for individuals. However, **CAST** found that this approach places the burden and cost of adaptation on each learner and failed to address all barriers within the educational setting that learners with disabilities encounter.

CAST shifted its approach from clinical services to research, product development and work in educational settings. “We now believe that the most effective strategy for expanding educational opportunities for individuals with disabilities is through Universal Design for Living.”

To learn more about **CAST** programs, contact:

The Center for Applied Special Technology (CAST)

40 Harvard Mills Square
Ste. 3
Wakefield, MA 01220-3233
Phone: (781) 245-2212
Contact: Gaby King
<http://www.cast.org/>
cast@cast.org

Center for Inclusive Design & Environmental Access (IDEA)

Housed at the School of Architecture and Planning at the University of Buffalo, **IDEA** is dedicated to improving the design of environments and products by making them more usable, safer and appealing to individuals with a wide range of abilities throughout their life spans.

Originally based on the concepts of accessible “barrier free” design and normalization, **IDEA** has expanded to include Universal Design. **IDEA** provides

resources and technical expertise in architecture, product design, facilities management and the social and behavioral sciences.

Ongoing programs focus on home modifications, functional assessment and Universal Design. Specific programs include: *Universal Design*, which develops and tests design criteria for Universal Design; *Enabling Home Environments*, a research and development effort that studies methods for delivery of home modification services to older people in need; *Measuring Enabling Environments*, which develops and disseminates methods for measuring the fit between individuals and their physical environment; *Educational Materials and Programs*, which develops resource materials and programs on accessible design, Universal Design, facilities management, ergonomics and building regulations; *Innovative Product Development*, a design program that develops innovative assistive technology, building products and consumer products with Universal Design features; *Design and Technical Assistance Services*, which provides design and consulting services for families and individuals.

IDEA is home to the RERC on Universal Design at the University of Buffalo. The RERC represents a five-year \$3 million partnership between the IDEA Center and design and disability organizations nationwide.

To learn more about **IDEA**, contact:

Center for Inclusive Design & Environmental Access (IDEA)
School of Architecture and Planning
University of Buffalo
Buffalo, NY 14214-3087

Phone: (716) 829-3485 ext. 329
TTY: 1-877-237-4219 ext. 336
Fax: (716) 829-3861
Edward Steinfeld, Arch. D., Director
<http://arch.buffalo.edu/~idea/>

Center for Universal Design

The Center aims to “improve the built environment and related products for all users by impacting change in policies and procedures through research, information, training and design assistance.”

The Center for Universal Design was founded in 1989 under a grant from the National Institute on Disability and Rehabilitation Research (NIDRR) as the Center for Accessible Housing. Its mission: “to improve the quality and availability of housing for people with disabilities, including disabilities that result from aging.” Guided by the vision of founder Ron Mace, FAIA, the Center assembled and disseminated existing information and created new landmark materials on accessible housing.

In 1994, under a second NIDRR grant, the Center’s expanded mission included the investigation of Universal Design applications in the home environment. Two years later the Center changed its name to **The Center for Universal Design** to reflect its broadened focus across the built environment.

In 1999, the Center was funded by NIDRR to operate a Rehabilitation Engineering Research Center (RERC) on Universal Design and the Built Environment.

Today, an expert staff, highly respected National Advisory Council and nationally

recognized strategic partners constitute The Center for Universal Design. The Center features the Principles of Universal Design, Exemplars of Universal Design, Universal Design history and the Design File.

To learn more about The Center’s programs, contact:

The Center for Universal Design
College of Design
North Carolina State University
50 Pullen Road, Brooks Hall, Room 104
Campus Box 8613
Raleigh, NC 27695-8613
Information Line: 1-800-647-6777
Phone: (919) 515-3082
Fax: (919) 515-7330
Contact: Sally Haile
<http://www.design.ncsu.edu/cud>
cud@ncsu.edu

Michigan’s Assistive Technology Resource Program

Michigan's Assistive Technology Resource (**MATR**) program provides information services, support materials, technical assistance, and training to local and intermediate school districts in Michigan to increase their capacity to address the assistive technology needs of students with disabilities.

MATR responds to inquiries by researching resources and providing current information on products, services and service providers in the field of assistive technology. It also maintains a collection of catalogs, reprints, and publications to benefit assistive technology personnel in Michigan schools. Assistive technology vendors and disability-related resources are listed on their website.

Program Director Dr. Hunt Riegel tells us that “many school districts were caught unaware by recent legislation regarding the provision of assistive technology to students with certain disabilities. **MATR** is a resource that responds to this need by helping school districts analyze and individualize AT needs, and by providing continuing support to school districts through site visits to improve their ability to develop a team approach to decision-making.” He adds, “**MATR** emphasizes building local district capacity to address student's assistive technology needs.”

MATR also provides in-services, workshops, seminars, and training opportunities for education and other professionals. It maintains a software and equipment lending library. **MATR** offers a number of opportunities for interested persons to increase and hone their leadership skills for local district assistive technology and IEP teams. These initiatives include pre-service, in-service, and graduate experiences for individuals working within the Intermediate School Districts (ISDs), and within existing programs of study at Michigan's institutions of higher education.

To learn more about **MATR** programs, contact:
Michigan's Assistive Technology Resource (**MATR**)
1023 South U.S. 27, Suite B31 St. Johns, MI 48879-2424
Phone: (800) 274-7426 (989) 224-0333
TTY: (989) 224-0246
Fax: (989) 224-0330
<http://www.matr.org>
or contact Dr. Hunt Riegel at matr@match.org

The Trace Research & Development Center

The Trace Center develops ways to make standard information technologies and telecommunications systems more accessible and useable for individuals with disabilities.

Founded in 1971, the Trace Center has been a pioneer in technology and disability. The Trace Center is a part of the College of Engineering, University of Wisconsin at Madison.

Current Trace Center programs include: *Universal Design/Disability Access*, part of the National Computational Science Alliance (NCSA) that helps ensure that supercomputing systems and applications (including the future Internet) are built in a manner that makes them more accessible for people with disabilities; *Universal Design Research Project*, a three-year study designed to gain an understanding of why and how companies adopt Universal design.

The Trace Center is the home of the RERC on Telecommunications Access and the RERC on Information Technology Access. The Trace Center's website features a wide range of information on accessible technology including Information Transaction Machines (ITMs) as well as a list of discussion groups.

To learn more about the Trace Center, contact:

Trace Research and Development Center

University of Wisconsin
2107 Engineering Centers Bldg.
1550 Engineering Drive
Madison, WI 53706

Phone: (608) 262-6966
Information Line: (608) 263-1156
TTY: (608) 263-5408
Fax: (608) 262-8848
Contact: Gregg C. Vanderheiden, Ph.D.
<http://www.trace.wisc.edu/>
info@tracewisc.edu

The Universal Design Institute (Canada)

The Universal Design Institute emphasizes a multi-disciplinary approach to its research, training and technical assistance activities. The Institute is a semi-independent non-profit organization housed in the University of Manitoba's Faculty of Architecture. Its board of directors includes persons with disabilities. Institute programs include: 1.) Support for interdisciplinary activities aimed at developing design solutions or recommendations for the built environment; 2.) Conducting educational activities for a wide variety of constituencies; 3.) Providing technical assistance, information and promotion via dissemination of publications and other informational materials.

The Institute is also active in the wider community. Director Laurie Ringaert sat on the Technical Committee for PortageScape, the redesign of the City of Winnipeg's downtown Winnipeg Street, as well as on a several national and international Universal Design committees. Ms. Ringaert has helped develop projects and research proposals for the Inter-Organizational Access Committee, Manitoba League of Persons with Disabilities and the City of Winnipeg Access Committee.

To learn more about the Institute's programs, contact:

The Universal Design Institute
Faculty of Architecture
University of Manitoba
Winnipeg, Manitoba, Canada
Contact: Laurie Ringaert, Director
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ringaer@cc.umanitoba.ca

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