

Accessible Indoor Air Quality Issues on the Rise

For some, “homesick” is taking on new meaning. Litigation, legislation, negative media publicity and public education campaigns, like the one by the National Center for Environmental Health Strategies (NCEHS), have increased public awareness about illness and diseases caused by the indoor environment.

Mary Lamielle, executive director of NCEHS, a non-profit organization in Voorhees, N.J., has been working to create accessible indoor environments for nearly 20 years. Now the U.S. Architectural & Transportation Barriers Compliance Board (Access Board), which issues the Americans with Disabilities Act Accessibility Guidelines (ADAAG), is about to undertake a major research project focusing on accessible indoor environments, and Lamielle is encouraged. “It has been a long time of waiting to get some baby steps,” she said.

The goal of the Access Board project is to develop an action plan that will outline how to make indoor environments more accessible to people with multiple chemical sensitivities (MCS) through building design and construction, including building products and materials.

People with MCS report extreme sensitivities or intoler-

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Talking ATMS in Banks and Beyond

A 1999 settlement agreement between Wells Fargo Bank and a small group of people in California with vision impairments has helped fuel an accessibility movement in the banking world and beyond.

Automated Teller Machines (ATMs), once a convenience only for people who could see and read the screen, are increasingly interactive and, now, bi-lingual. They are providing more services and independence for customers across the country.

According to Lainey Feingold, a disability rights attorney in Berkeley and counsel for the plaintiffs in the 1999 settlement agreement, today there are approximately 10,000 talking ATMs in 40 states — one out of 35 ATMs have the capacity to “talk.”

As their numbers expand, so do their capabilities. In addition to volume control, the current generation of ATMs allows users to access more than one account. According to Feingold, some banks, for example Fleet, allow users to change their Personal Identification Numbers and set their own preferences at the ATM. Many banks are offering Spanish and English talking ATMs, including Wells Fargo which recently announced that 2,700 of its talking ATMs now offer Spanish audio.

According to Feingold, the banking industry’s resistance to includ-

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Photo provided by Bank of America

Talking ATMs are now available in 40 states.



The Urge to Improve

It may sound like a curmudgeon to seemingly speak against change, but sometimes I wonder if improvement is always better.

In the present state of accessibility regulations, states and municipalities are beginning (once again) to make small but significant changes to the model

accessibility codes as they adopt building code standards in this new century. I wish more of them would follow the lead of Minnesotan, Curt Wiele, who has successfully proposed changes to the ANSI A117.1 national accessibility standard. The ANSI process works — solid proposals withstand laborious debate among a broad base of interested parties and inconsistent or half-baked ideas are weeded out.

The problem was clearly illustrated at a seminar I recently attended which discussed the new Maryland “Smart Code.” Surprisingly, accessibility issues frequently took center stage. (Smart Codes are a new type of building construction code intended to make it easier to renovate existing buildings without having to bring them into total compliance with all of the safety requirements of newly constructed buildings.) What concerned me most that in Maryland, as in many other states around the country, those involved in the code adoption process feel it necessary to “improve upon” the constantly updated national codes by inserting well-intentioned additional requirements which often create more problems.

In Maryland, for instance, the number of van accessible parking spaces has been increased from one in every eight accessible parking spaces to two in eight. While that is probably a realistic response to the increased number of people who drive lift-equipped vans, the proposed Americans with Disabilities Act Accessibility Guidelines (ADAAG) is moving from one in eight to one in six. A related problem is that people often illegally park in the 8' wide van accessible parking space access aisles which are supposed to be left clear for use of the side lift. Maryland has come up with a new requirement that additional signage be posted telling people not to park in the access aisles. Unfortunately, the new

Maryland rule doesn't seem to encourage or provide for a simpler approach developed in Florida of widening the parking space and keeping the access aisle at the standard 5' width which is too narrow to park a car and eliminates the need for additional and potentially confusing signage.

Such a simple solution would have likely surfaced if a proposal had been submitted to the ANSIA117.1 Committee — with its knowledge and problem-solving ability. The same could be said of the 90 such “improvements” to the proposed new building code for the District of Columbia.

The resulting changes from the model code causes confusion among building owners and designers as they struggle to understand, much less keep up with the thousands of requirements that are increasingly different from state-to-state, and city-to-city.

The only encouraging sign is the growing tendency of local and state code authorities to forego their authorship right by adopting a model building code without modification, a tendency encouraged by the recent merger of the former three national model building codes into one International Building Code.

I applaud those code officials and concerned citizens that resist the urge to improve upon something they do not fully understand.

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Ostroff Honored

Universal Design Newsletter Consulting Editor, Elaine Ostroff was honored by the Association of Collegiate Schools of Architecture (ACSA) with the ACSA Honorary Award at their annual meeting in March. The citation noted that one of her greatest contributions to the design community was co-founding the Boston-based Adaptive Environments Center in 1978. Under her leadership, the organization has become an international authority on accessibility and universal design. One of the national programs that she developed, the Universal Design Education Project, became a model for design education programs in Norway, Sweden and Belgium. 

Reg/ LegWATCH



Accessible Curb Ramps Coming to New York City

New York City has agreed to make all of its approximately 158,000 street corners accessible to people who use wheelchairs. The action is the result of a settlement agreement between the city and the Eastern Paralyzed Veterans Association (EPVA).

EPVA sued the city under Title II of the Americans with Disabilities Act in 1994 for failing to issue a plan for installing curb ramps, for failing to install curb ramps when streets are resurfaced, and for failing to install curb ramps “as expeditiously as possible.”

According to the settlement agreement, the city will commit \$218 million for the installation of curb ramps on all of the 61,074 corners remaining to be ramped. As a result of the financial commitments, the rate of curb ramp installations in the city



should be nearly double that of the preceding eight years.

“This settlement hastens the day when wheelchair users will face no barriers as they move around New York,” said James J. Weisman, general counsel for EPVA. “We welcome the city as a partner in making every street corner in every borough accessible.”

Court Says Web Access Required

Another court has weighed in on the question of whether access to websites is covered under the Americans with Disabilities Act (ADA). In the case of *Vincent Martin, et al v. Metropolitan Atlanta Rapid Transit Authority*, a U.S. District Court in Atlanta has stated that until MARTA corrects the deficiencies on its web page, it is in violation of the ADA’s mandate of “making adequate communications capacity available, through accessible formats and technology, to enable users to obtain information and schedule service.”

In the proceedings, MARTA conceded that the system’s web page is not formatted in such a way

that it can be read by people with visual impairments.

The decision in this case reflects the continuing swing of the judicial pendulum. In some ways it contradicts another federal court’s decision last fall to dismiss a lawsuit against Southwest Airlines, affirming that the company does not have to make its website more accessible to people with visual impairments.

Disability rights attorney Lainey Feingold cautions against a broad interpretation of the implications of the Southwest Airlines case.

“The lower court’s decision in Southwest is unique because it addresses only one of several scenarios in which a company’s website might be covered by the ADA, and because the judge seemed to have particular concerns about regulating airlines,” says Feingold. “It would be a mistake for industry to think it was somehow ‘off the hook’ in light of [the Southwest] decision.”

“It would be a mistake for industry to think it was somehow ‘off the hook’ in light of that decision.”

Lainey Feingold,
Disability Rights Attorney,
Berkeley, CA

Center for Universal Design Names New Director

The Center for Universal Design at North Carolina State University has named Laurie Ringaert as its new Director. Ringaert will assume that position on April 1, 2003.

Ringaert, formerly Director of the Universal Design Institute in Canada, has been involved with disability and accessibility issues for more than 20 years. She is an occupational therapist and holds a Masters of Science degree in Community Health Sciences. Ringaert will undertake her new position as Director of the Center for Universal Design within the Research, Extension and Engagement Program. As director, Ringaert will manage the staff, participate as principal investigator on the Rehabilitation Engineering Research Center (RERC) on Universal Design and the Built Environment, conduct research and seek grant acquisitions for the center. Established in 1989, the Center is funded by National Institute on Disability and Rehabilitation Research (NIDRR) as a RERC. The RERC’s purpose is to improve the accessibility and usability of products and the built environment and advance the field of universal design.

Guided by the vision of its late founder, Ronald L. Mace, FAIA, the strives to expand the awareness, knowledge and adoption of universal design practices.

New ADAAG Soon to End Its Long Journey

Any day now, the revised Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Guidelines are expected to be forwarded from U.S. Architectural & Transportation Barriers Compliance Board (Access Board) to the Office of Management and Budget (OMB). This is just the next step in a long journey from draft rule to reality.

"We hope to send it soon, but we do not have a firm date," said Marsha Mazz, Technical Assistance Coordinator at the Access Board.

The new guidelines were approved in September 2002 by the Access Board. Since then, the Access Board has been developing a regulatory assessment, or cost analysis, of the guidelines. Once the analysis is completed, the rule and assessments will be sent to OMB. Then OMB will have 90 days to complete its review.

Off to OMB

"I cannot speak for [the Department of Justice] but I do know that once our regulatory assessment is finalized we will submit our rule and its assessment to OMB for approval without delay," said Mazz. "OMB will have 90 days to review our rule. I must assume they will approve it, because to think of the alternative is frankly just too painful." DOJ did not respond to inquiries regarding the rulemaking process.

According to Mazz, once OMB approves the rule, the Access Board will publish it in the *Federal Register* and then it is the minimum guideline for the Department of Transportation (DOT) and the Department of Justice (DOJ). That appearance in the *Federal Register* will be the first public glimpse of the new guidelines.

When DOT and DOJ have this new minimum guideline they must each undertake their own

rulemaking by first publishing a Notice of Proposed Rulemaking, analyzing public comment, publishing a Final Rule, and preparing a regulatory assessment

"DOJ and DOT must do more than just adopt our guidelines as the new Standards for Accessible Design," said Mazz. "They must amend their regulations in a few ways so that the public knows what affect the change in the Standards will have on the existing regulations."

Mazz cited an example of how the new guidelines might affect changes in the regulations. "The Title III regulation contains an obligation for Public Accommodations to remove barriers if doing so is 'readily achievable.' [See 28 CFR Part 36.304 Removal of Barriers.] This Preamble to the Title III regulation describes this obligation as a 'continuing' obligation, meaning that if barriers still exist in the facility, they must be removed if doing so is, or becomes, 'readily achievable' for the public accommodation or if the public accommodation changes hands over time."

"Many public accommodations have removed some barriers in compliance with the existing Standards," she said. "However, the Standards are about to change. In 1998, the ANSI A117 Committee lowered the high side reach from 54 inches maximum to 48 inches maximum. The Access Board will soon follow suit. Does this mean that every control that was lowered to 54 inches must now be lowered again to 48 inches? Probably not, but DOJ must articulate this principle in its Notice of Proposed Rulemaking and allow the proponents of both sides to make a case for their position. Then, its Final Rule must reflect an analysis of the public comment, the regulatory impact, and its final decision on the matter." 

"...I must assume they will approve it, because to think of the alternative is frankly just too painful."

Marsha Mazz,
Technical Assistance
Coordinator,
The Access Board

Indoor Air Quality, from page 1

ances to a wide range of exposures, from new carpeting to pesticides to cleaning solutions. Surveys about the prevalence of MCS indicate that 16 to 33 percent of the people interviewed reported that they are unusually sensitive to chemicals, according to NCEHS. Symptoms may include severe headaches, fatigue, difficulty breathing, cardiovascular problems, among many others. Many people with asthma also suffer from problems with indoor air quality (IAQ).

According to the Environmental Protection

Agency (EPA), a 1984 World Health Organization Committee report suggested that up to 30 percent of new and remodeled buildings worldwide may be the subject of excessive complaints related to IAQ. The EPA defines Sick Building Syndrome (SBS) as "situations in which building occupants experience acute health and comfort effects that appear to be linked to time spent in a building, but no specific illness or cause can be identified."

While non-smoking public spaces have become

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ITALY

New Calatrava Bridge in Venice in Question

Future construction is in question on a bridge in Venice designed by Santiago Calatrava, after an international outcry over its inaccessibility and alleged safety problems. The new pedestrian step bridge will link the railway station on one side, and the bus terminus and multi-story carpark on the other. It is the fourth bridge on the Canal Grande and had been designed and approved allegedly in violation of Italian laws on accessibility. The HB Group, an architecture firm in Milan, spearheaded the concern over the bridge that could only be approached by variable height steps on either side. The Italian design and advocacy groups rejected the initial responses from the City Council, which had offered ferry rides or mechanical devices as alternatives for people who could not use Calatrava's original design.

At a meeting with the Mayor of Venice in January, the HB group was asked to prepare a technical report that the mayor would review with Calatrava in mid March. Paola Bucciarelli, architect with HB Group said, "Calatrava has to redesign his own bridge. If he'll do it, we are available to discuss with him the new solutions proposed." She also noted, "If Calatrava does not offer an appropriate solution, the associations will initiate legal action to stop any further construction of the bridge." The March meeting was cancelled.

Universal Design Newsletter will have more information on the outcomes of the discussions in the July issue. For information about the bridge, see: www.hbgroup.it/calatrava/world.htm or visit www.hbgroup.it/calatrava/foto.htm.

JAPAN

Universal Design 2002 Conference and Exhibit Attracts Thousands

The large numbers of people involved with the International Conference for Universal Design in Japan 2002 highlight the intense Japanese interest in universal design. The conference introduced Japanese achievements in universal design to the

international design community as well as the business community in Japan. The four-day event in Yokohama attracted 3,200 visitors to the universal design exhibits of Japanese businesses. Newspaper and magazine coverage before and after the conference, and two TV news reports broadcasts of the conference, extended the reach to the general public.



Thousands of people attended the exhibit of universally designed Japanese products.

Seven plenary sessions were arranged to cover emerging issues on universal design, all of which had simultaneous translation to make it easier for the Japanese to be involved in the heated discussion. (English language is notorious as being a barrier to communication for Japanese.)

Satoshi Kose, conference chairperson, reported that the success of the conference included: exposure of Japanese accomplishments to overseas experts (which were hardly visible to the outside before); recognition of further potential of universal design by top executives of Japanese business corporations; and extension of universal design education to the business world. Kose said, "As the country with the fastest growing aging population in the world, Japan has to take the lead to move forward with universal design in mind. Its success is sure to benefit the whole world."

More than 100 papers selected for the conference are now available on a CD ROM of the proceedings. Contact Satoshi Kose for more information, at: skose@gakushikai.jp

UNITED KINGDOM

NRAC Now Has 100 Members

The National Register of Access Consultants (NRAC) in London has now accepted its 100th full member. In less than two years, the NRAC has grown from a fledgling accreditation organization to a respected body of access professionals. In addition to the full members, there are now more than 100 individuals and organizations that are Affiliates of the Register. Mary Noble, NRAC Register Manager said, "Qualified access auditors and consultants are in high demand as the deadline for the implementation of the 2004 du-



Neil Smith, Auditor Member, presenting a preparatory seminar for applicants.

"World Update" is written by Elaine Ostroff, founding director of the Adaptive Environments Center. If you have information about international universal design efforts that you would like to see published in *Universal Design Newsletter*, write to us at: 6 Grant Ave., Takoma Park, MD 20912; or contact publisher@universaldesign.com.

"As the country with the fastest growing aging population in the world, Japan has to take the lead to move forward with universal design in mind. Its success is sure to benefit the whole world."

Satoshi Kose,
Conference Chairperson

Serving Hotel Guests – An Etiquette Guide

The Texas Governor's Committee on People with Disabilities has released a guide to serving hotel guests with disabilities. The following are some of the highlights:

General Etiquette

- Speak directly to a person with a disability rather than through a companion or sign language interpreter.

- Offer to shake hands. People with limited hand use or who wear an artificial limb can usually shake hands. (Shaking hands with the left hand is an acceptable greeting.)

- Identify yourself and others who may be with you when interacting with a person who is blind or low vision.

- Identify the person to whom you are speaking, especially when conversing in a group.

- Wait until an offer of assistance is accepted, then listen to or ask for instructions of how to help.

- Remember that service animals are working, and you should not interact with them as you would with a pet.

- Treat adults as adults. Address people who have disabilities by their first names only if extending the same familiarity to others.

- Listen attentively when you're talking with a person who has difficulty speaking. Be patient and wait for the person to finish; ask questions that require short answers; repeat what you have understood and allow the person to respond.

- Place yourself at eye level with a person who uses a wheelchair or crutches to facilitate communication.

- Tap a person who is deaf on the shoulder or wave your hand to get their attention; speak directly to them without raising your voice; keep hands and cigarettes away from your mouth.

- Relax. Feel free to use accepted, common expressions such as "See you later," or "Did you hear about that?"

- Ask questions of the individual you are assisting when you are unsure of what to do.

- A person who uses a wheelchair often considers his or her chair as part of their body space. Refrain from leaning on or moving their chair without permission.

- Refrain from asking a person how they acquired their disability.

- Refrain from interrupting a person with speech impairment or finishing their sentences. Be patient and let them complete their idea or request without interruption.

- Be sensitive to people who lip-read by facing the light source and keep hands, cigarettes or food away from your mouth when speaking.

Guest Assistance

- Check to see that the accessible path of travel from the parking space to all accessible features is unobstructed by construction, furniture, etc.

- Be informed about your accessible rooms, make sure of details such as roll-in showers, bath benches, and inspect features regularly to be sure they are in good repair.

- Assist persons with visual impairments to sign registration information by placing a card or signature guide along the line.

- Allow persons with visual impairments to take your arm when assisting them to a new location.

- Orient individuals to guest room features by detailed verbal instructions. If they continue to have difficulty, ask if they would like you to "show" them using their hands. Be sure to release their hands periodically so they can "explore" the lay-out of the feature. (items they may want described include thermostats, lay-out of room, remote controls, hotel telephones, etc.)

- If your hotel provides accommodations for persons who are deaf, make sure you know where the equipment is kept. Some hotels store them in a maintenance facility location (items may include doorbell lights, TTY devices, etc.). Know if your televisions can display captioning and advertise this on your website.

- Move obstructions that block the path of travel — re-evaluate as the hotel becomes more crowded.

- Card keys should provide tactile information so the user who is blind can determine how to insert the card into the lock.

- Doorplates with raised numbers and braille help guests find their rooms.

- Guests who are blind may ask you to orient them to the exercise facility. 

Ask questions of the individual you are assisting when you are unsure of what to do.

Texas Governor's
Committee on People
with Disabilities

More Information Available

The Texas Governor's Committee
on People with Disabilities

P. O. Box 12428, Austin, Texas 78711
512-463-5739; or Dial 711 for Relay Services
www.governor.state.tx.us/disabilities

Japan: A Hotbed of Universal Design

Universal Design 2002 Conference in Yokohama, Japan

Japan is a hotbed of universal design. Unlike the U.S., which does not have a formal UD organization, Japan has at least three. Major Japanese corporations have embraced universal design as a means toward achieving a competitive edge in the marketplace. Several local governments have started universal design initiatives. There are many educational and consumer advocacy efforts underway as well.

From Nov. 30-Dec. 4, 2002, more than 500 attendees convened in Yokohama for Universal Design 2002, a one-day public event and a four-day professional conference. Perhaps the most important thing learned from this conference was the status of Asia in a global context. The world is will feel the effects as Asia with its more than 3 billion people — half of the world’s population — adopts universal design ideas. An economy that large drives design, production and distribution of many products. Moreover Japan is the world’s second largest consumer market and China is now the manufacturing center of the world.

A second important lesson of the conference was how cultural barriers affect the adoption of universal design ideas. Like in the States, houses in Japan have been traditionally raised above the ground. However, Japanese house design traditions also include a step between the entry vestibule and the main part of the home and between that and the bathroom. Communal bathing in a deep tub is also a strong tradition. While we in the U.S. still encounter barriers to the adoption of stepless entries and accessible showers, they are not nearly as difficult to overcome as the cultural barriers faced by advocates for UD housing in Japan.

Dr. Satoshi Kose reports that eliminating steps into the house is relatively easy to achieve, but there is very strong resistance to eliminating the inside step, which traditionally marks the boundary of the interior space where shoes are not worn.

Language can also be a barrier to change. Three Asian written languages, Japanese, Chinese and Thai, are based on complex character sets that require two bytes of data to code as opposed to one byte for Western character sets. This creates some significant technical limitations for universal design applications. For example, it makes it more difficult to develop software that will work seamlessly around the world. Japanese electronics companies are in favor of international standards that allow their equipment to work everywhere, so they are becoming an agent of change for computing standards that move the world toward a higher degree of accessibility.

Cultural barriers created by language, traditions, religious beliefs and construction methods are an area that clearly needs to be discussed and studied more explicitly. Japanese designers are

Three Asian written languages, Japanese, Chinese and Thai, are based on complex character sets that require two bytes of data to code as opposed to one byte for Western character sets.

Editorial

by Ed Steinfeld, Director
RERC on Universal Design at Buffalo



Yokohama, Japan

Photo by Ed Steinfeld

working on ways to overcome cultural barriers without losing their unique cultural identity. For example, at least two companies have developed whole body showering systems that can be used in a seated position and reportedly provide therapeutic benefits similar to soaking tubs. One company has designed such a system to use by two

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The contents of this insert are provided by the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo, which is sponsored by a grant from the National Institute of Disability and Rehabilitation Research (NIDRR) U.S. Department of Education (DOE). These contents, however, do not necessarily represent the policy of DOE. Readers should not assume an endorsement by the federal government.

Exhibit Shows a 'Day-in-the-Life' with Universal Design

A multi-media, hands-on exhibition of well-designed, attractive products and residential interiors is on display at the University at Buffalo Center for the Arts Gallery through June.

The Unlimited by Design exhibit, sponsored by the IDEA Center in conjunction with the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo opened in February. First shown at the Smithsonian Institution's Cooper-Hewitt National Design Museum in New York, the Unlimited by Design exhibit is organized around a "day-in-the-life" walk-through tour of products and interiors found in and about the home. All products and environments in the exhibition are designed according to the principles of universal design — they are easy and intuitive to use and operate, safe for virtually anyone, fit well with all body sizes, and are tolerant of erroneous use.

"The exhibition showcases excellent examples of universal design - prototypes as well as mass manufactured products designed for all users," said Professor Abir Mullick. "The exhibition invites interaction so people can learn about universal design first hand."



The exhibit features familiar household gadgets.

On display are more than 300 products from designers who have embraced the challenges and opportunities of universal design. Featured in the exhibit are:

- Familiar household gadgets, such as the Oxo Good Grips line, that provide visual appeal as well as facilitate use.
- An award-winning universal bathroom proto-



Photo by Eric Dolph

The exhibit showcases examples of universal design.

type designed by the IDEA center.

- Ergonomic garden tools designed by Fiskars that are easily operated by all hands, including children, people of short stature, and elders.
 - Innovative adjustable faucets, handles, mirrors, and small appliances.
 - The Whirlpool prototype Family Studio - a family centered laundry and home activity center.
 - Products for the home office and workplace including storage units, easy-to-see clocks, calculators, and computer controls, work stations, and fully-adjustable ergonomic chairs.
- "The design of the exhibition itself has been an exercise in universal design and has adopted many modes of communication, so everyone can find a way to learn about the products that work best for them," said Mullick. ▣

**The Unlimited by Design
Exhibit is open at the
Center for the Arts in
Buffalo, NY through
June 20, 2003.**

**"The exhibition
invites interaction
so people can
learn about
universal design
first hand."**

Prof. Abir Mullick
RERC of Universal Design
at Buffalo

News from the Center

ACSA Awards

The American Collegiate Schools of Architecture recently honored two of the staff of the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo. Edward Steinfeld, Director of the RERC received a Distinguished Professor Award for the impact his work has had on the profession at large and architectural education. Beth Tauke, Project Director for the Curriculum Models Project, received the Robert Taylor Award that recognizes outstanding curriculum development activities that address issues of design for a diverse population. She was recognized for her work on the development of the undergraduate general education course Design for Diversity. This course is being taught for the first time in the Spring 2003 semester. The award comes with a grant that will be used to videotape lectures in the course in preparation for developing an online version.

Research on Powered Mobility

The first steps in exploring the space requirements of powered mobility devices will begin this

year at the IDEA Center, home of the RERC on Universal Design at Buffalo. Funded by a contract from the U.S. Architectural & Transportation Barriers Compliance Board, the center will begin to develop a research plan and coordinate a consortium of research centers. The work will build upon the Prototype Anthropometric Database Project currently underway at the RERC. The funding will provide the resources to extend that study to other locations, to augment the anthropometric project with additional data collection activities and to develop a means to bring the results of the research to the standards making process.

Edward Steinfeld, Victor Paquet and David Feathers will be the key researchers at the RERC involved in this work.

Other centers in the consortium include the Rehabilitation Sciences Department at the University of Pittsburgh, the National Institute for Aviation Research at Wichita State University and the Ergonomics Laboratory at UC San Francisco and University of California at Berkeley. Consultants include Laurie Ringaert, Rory Cooper, Bruce Bradtmiller and Lex Frieden. 

The first steps in exploring the space requirements of powered mobility devices will begin this year at the IDEA Center....

Japan, from page 7

people together, continuing the communal bathing tradition.

Because the Japanese actually use several different character sets simultaneously, including Roman and even Greek characters, braille doesn't work effectively as an alternative to visual text. This is spurring the development of speech synthesis and recording systems as an alternative to braille. For example, one paper presented at the conference described the application of tiny pre-recorded chips for giving verbal instructions for prescription medicines. In the U.S., only about 10 percent of people who are blind can read braille. And, this system would greatly benefit older people who lose their sight too late in life to learn braille effectively.

These two examples of innovative product design demonstrate that cultural barriers can be overcome without loss of traditions and, the necessity of addressing such barriers can also result in innovations that will benefit other groups.

A third lesson I took away from this conference was the interdependence of universal design with

broader economic, technical and social trends. In the U.S. we tend to think of universal design as a technology and design problem rather than a ser-



Photo by Ed Steinfeld

This innovative toilet with built-in moveable grab bars was on display at the Japan UD 2002 Conference.

vices problem.

Many presentations and discussions, however,

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Accessible Exhibit Labels Made Easy

Making accessible labels for exhibits can be cheap and easy thanks to Alex Bitterman, project manager with the Rehabilitation Engineering Research Center (RERC) on Universal Design and the RERC UD Publications and Exhibitions team.

“The labels are easily produced using readily available, off-the-shelf office supplies and familiar software, such as Microsoft Word,” said Bitterman.

After producing the Unlimited by Design (UBD) Exhibition for the Milwaukee Institute of Art and Design in Milwaukee, WI, and consulting with various constituent groups, the UBD Development team, led by Professor Abir Mullick, recognized the need for an exhibit labeling system that goes beyond the standard museum label.

The team identified three main criteria for the labeling system. Ideally, the labeling system would be:

- Inexpensive, quick and easy to produce.
- Identifiable from a distance of 6 feet, and readable in limited lighting conditions from a distance of 3 feet.
- Integrated with other voice-based audio tours or print product notes.

foamcore backing in blocks of three and trimmed to the appropriate size, after which, a self-adhesive tactile Braille strip is added. The materials for each label cost about .07 cents each.

The labels feature large easy to read text and extra large guide numbers, which run sequentially through the exhibition. The guide numbers are in white on a black background, ensuring high contrast. The braille strip is flexible plastic, which maintains its integrity better than paper or cardstock after weeks of use. The plastic Braille strip is mounted about ¾ of an inch from the bottom (rather than directly at the bottom) of the card to provide “leader” or guide space for readers of Braille.

“The labels are functional,” said Bitterman. “Extraneous information, such as logo or other purely graphic information has been eliminated.” The labeling system is on display as part of the Unlimited by Design exhibition at the Center for the Arts in Buffalo, NY through June 20. 

Japan, *from page 9*

focused on the development of services using a universal design perspective and the integration of services and design.

For example, Roger Coleman and Melody Roberts, both industrial designers, argued that our global society was moving from a service-oriented economy to a “self-service” economy. Both products and business practices used in service delivery like internet access, car leasing and take-out food need to be re-conceptualized in universal design terms to insure that “self-service” will work better than conventional approaches.

As another example, Yoshiko Shiotani, Governor of Kumamoto Prefecture, gave an impressive description of how she is working with agencies in her government to adopt universal design thinking in providing public services like education.

So, the 14-hour plane trip to Japan was well worth it. The conference had a rich smorgasbord of presentations and, for a Westerner, was particularly helpful in understanding the importance of cultural differences and the role that Asia will play in the evolution of universal design. 

“The labels are easily produced using readily available, off-the-shelf office supplies and familiar software....”

Alex Bitterman,
RERC UD Project
Manager for Information
Design and Dissemination



Exhibit labels can be made with off-the-shelf products.

From a production standpoint, the labels are quick and simple to produce. Using stock 3x5 cards, information from a proprietary product database of universally designed products is merged into a Microsoft Word table document. The labels are then printed on a standard inkjet or laser printer. The labels are mounted to a durable



Website Spotlight: barrierfree.org

Barrier Free Architecturals Inc. provides unique accessible building products and appliances—many exclusive to North America—that are specified for residential, hospital, nursing home and other institutional use. The company’s website, www.barrierfree.org, features detailed color photographs and technical

specifications for all of its products, including grab bars, showers, baths, basins, faucets, cabinet lifts, shelving, counters and ramps. The website is easy to use, with buttons for each product line as well as for contact information and downloadable, PDF catalog pages.

Universal Design in Education: Teaching Non-Traditional Students

Professor Frank G. Bowe of Hofstra University in Hempstead, NY has written a 144-page handbook on teaching non-traditional students within a traditional environment.

With the growing number of students with disabilities such as attention deficit disorder, low or non-hearing, and vision and the influx of students from cultural traditions other than the Euro-American, Judeo-Christian Western culture, the author asserts that it is imperative to find new universal teaching methods to meet the variety of needs.

The book introduces the concept of universal design and how it can be applied to education. It also offers different principles that will make curricula, materials and environments accessible to and usable by all students.

Bowe suggests, among many other options, that teachers preparing universally designed curricula present information in multiple ways—both visually and orally, offer several ways for students to interact with and respond to materials, translate important materials to other languages, as needed, and choose physically accessible locations for classes.

Teaching Non-Traditional Students is published by Greenwood Press, www.greenwood.com.

Transit Access Report

Published twice monthly by Pace Publications, an independent publisher of subscription periodicals, *Transit Access Report* covers accessibility and mobility issues in public transportation.

This eight-page newsletter features articles, interviews and transcript excerpts from legal cases and legislation dealing with a wide range of issues, such as ticket vending machine access, procedural rights, and audible traffic signals and locator tones.

The “On the Record” section reports on current legal decisions, appeals and pending cases. The annual subscription price is \$295. For more information, call 202.835.1770.

A Practical Guide to Universal Home Design

The East Metro Senior Agenda for Independent Living, with support from the Minnesota Department of Human Services, has developed a 19-page guide to help people add universal design features to their homes.

Intended to assist people who are remodeling, buying, renting or building homes, the guide provides a features checklist noting which items are “essential” and which are “worth considering.” It is packed with ideas for removing barriers in the entrance, kitchen and bathroom. “Room by room, this checklist can help you consider your options and increase the ease and flexibility of your home,” according to the authors. In addition, it includes suggestions for laundry rooms, bedrooms, garages, stairs, floors, windows, and storage.

Also included in the guide are a list of additional home design resources.

The guide is free and can be found online at www.van.umn.edu, www.tcaging.org, or www.wilder.org/research. 



... teachers preparing universally designed curricula would present information in multiple ways—both visually and orally, offer several ways for students to interact with and respond to materials....

Prof. Frank G. Bowe, Hofstra University

Correction for Worldenable Website

The Worldenable website noted on page 11 of the January 2003 edition of Universal Design Newsletter (Vol. 6. No. 5) should have been www.worldenable.net.

Talking ATMs, *from page 1*

ing audio capabilities on ATMs has vanished over time. "With leadership from larger banks, it appears that the industry has come around from its initial position," she said. "There is often no need to fight because manufacturers offer the talking feature on their machines." She noted that even smaller financial institutions are offering the feature on their ATMs. She recently learned that a small credit union in rural Wisconsin and a local community bank in Nebraska purchased and installed talking ATMs. "More and more institutions are doing the right thing," she said.

One of the manufacturers leading the way has been Triton, a maker of stand-alone ATMs. Its machines are intended for use at non-bank settings such as building lobbies, shopping malls, motels, hotels, convenience stores or truck stops. Triton includes speech output as a standard feature on all but the most basic version of its machines.

Technology

As described by Bill Jackson, Chief Technical Officer for Triton and author of a white paper entitled "The Americans with Disabilities Act and Its Effect on Automated Teller Machines," there are two common methods used to provide the speech in ATMs. One way is to employ .WAV files.

The digital equivalent of a tape recording, a WAV file can be played through a speaker on even a low-end PC. One of the drawbacks to using WAV files is that it is impractical to record all possible words or phrases that are needed to support the program. In addition, when changes are needed, it is challenging to maintain the consistency of the pre-recorded files.

The second technology is text-to-speech synthesis software. The software can translate and deliver verbally any word or phrase that can be put into text form. While providing the ultimate in flexibility, the text-to-speech synthesis requires a powerful PC and employs a synthetic-sounding voice.

To use a talking ATM, a customer plugs in a pair of headphones, either their own or one provided by the host. The machine recognizes when someone has plugged in a pair of headphones. According to Jackson, a Triton machine will provide an audio description of the screen layout, i.e. "press 1 for withdrawal... 2 for access to savings..." At the end, it reads confirmation of the transaction and tells the customer what didn't work.

The Future

For Triton, talking ATMs are integral to its growth plans. While stand alone ATMs will continue as a way to withdraw cash from financial institutions, they will soon offer much more. According to Jackson, Triton has plans to offer features such as the ability to sell pre-paid mobile phone cards, conduct money transfers through Western Union, and offer third party check cashing. "We envision ATMs as hi-tech vending machines," said Jackson. The array of new services will not require new hardware, but will require new software.

Feingold hopes that the movement toward increased accessibility will continue to gain momentum. "The ATM experience will be a model for other kiosks – for airline tickets, movie tickets, etc.," she said. "Talking ATMs provide independence. It's very liberating. It is accessible technology that is accepted by users. It is a victory for collaboration – among manufacturers, blind consumers and banks." 

"The ATM experience will be a model for other kiosks – for airline tickets, movie tickets, etc.,"

Lainey Feingold,
Disability Rights Attorney,
Berkeley, CA

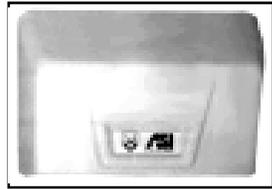
World Update, *from page 5*

ties of the Disability Discrimination Act 1995 approaches. Many service providers wishing to respond to their duties under the act are engaging access professionals to audit their services and premises. The NRAC is endorsed by the government departments who funded the establishment of the register and the Disability Rights Commission. David Sindall of the Disability Rights Commission said: "The only real quality standard for consultants and auditors is the National Register of Access Consultants... people will know an access consultant is qualified and understands how to carry out an access audit and will produce a good quality piece of work."

For more information, visit: www.nrac.org.uk. Clients can access the details of accredited access professionals from the website, free of charge, using a profile tailored to their individual needs. For more information contact Mary Noble at: marynoble@nrac.org.uk. NRAC is a project of Centre for Accessible Environments. The Center, a registered charity, gives advice and information on making buildings and places accessible to all users. See: www.cae.org.uk/index.html. 

Profile^a Hand Dryer

The Profile Dryer from American Specialties Inc. measures four inches from wall to front, making it a surface-mounted air dryer to conform to Americans with Disabilities Act Accessibility Guidelines protruding object requirements. Featuring no-touch, energy-efficient operation, self-adjusting time-out and fail safe “off” protection and universal voltage, the Profile Dryer sends 183 cubic feet per minute (CFM) of warm air through dual tamper-resistant jets to dry hands in less than 25 seconds. The one-piece stamped cover measures 10” H x 14” W x 4” D and is available in white, grey, black, almond, desert sand, bright stainless steel or satin stainless steel. American Specialties also offers a smaller model, the Profile Compact, that measures 9.7” H x 9.2” W x 4” D and delivers 140 CFM of warm air.



Hand Dryer

Portable Wheelchair Lift

The Ascension portable wheelchair lift provides access to stages, platforms, and risers for individuals with disabilities, eliminating the need for permanent



Portable lift

access equipment or ramps. Available in front opening and side opening models, the compact lift moves easily to serve multiple locations, is self-contained, operates quietly and plugs into a standard wall outlet (120V). No building alterations or site preparations are required. Covered by a 10-year drive train warranty, the Ascension portable wheelchair lift can be customized with such features as elongated toggle switches, international

permanent access equipment or ramps. Available in front opening and side opening models, the compact lift moves easily to serve multiple locations, is self-contained, operates quietly and plugs into a standard wall outlet (120V). No building alterations or site preparations are required. Covered by a 10-year drive train warranty, the Ascension portable wheelchair lift can be customized with such features as elongated toggle switches, international

power supply, custom colors and stairbridges for access over stairsteps.

Sliding Drawer-Style Dishwasher

The award-winning DishDrawer™ as featured in the **Home for the Next 50 Years**, from Fisher & Paykel Appliances, Inc. is an ergonomic and economical dishwasher that opens like a drawer, offering easier access, improved visibility and less movement in opening, closing, loading and unloading. The double DishDrawer models act as two separate units that allow for cleaning of delicate glassware and china in one drawer and heavily soiled baking dishes, pots, pans and utensils in another drawer during the same wash cycle. The ultra quiet DishDrawer features adjustable water pressure dials and a flow-through dispenser that pre-mixes the detergent with water. A small load uses as little as 1.8 gallons of water per cycle. The front of the unit can be finished in a variety of materials, including wood, laminate or paneling, to integrate with existing cabinetry. The DishDrawer is also available as a single unit and comes with a two-year parts and labor warranty.

Front-Loading Washer and Dryer

Miele Inc. recently introduced its Novotronic W1986 washing machine, as featured in the **Home for the Next 50 Years**, with a front-loading port-hole for easier access. With easy-to-reach knobs and touch button controls, the unusually quiet unit features a hydromatic wash system, countdown display and delay start options, extended wash programs, DualTherm internal heater, high spin speeds, fault indicators, a cast iron cradle and hydraulic suspension. The Novotronic comes in white porcelain enamel and can be stacked with the front-loading Novotronic clothes dryer, which features 13 drying programs (11 moisture based and two timed), interim drying stage indicators, three-stage filtration, interior light and a low temperature d



Front-loading washer and dryer

AmericanSpecialties Inc.
(Profile™ Dryer)
441 Saw Mill River Rd.
Yonkers, NY 10701-4913
Phone: 914.476.9000
Fax: 914.476.0688
www.americanspecialties.com

Ascension
(Portable Wheelchair Lift)
3526 E. Ft. Lowell Rd.
PO Box 40020
Tucson, AZ 85717-0020
Phone: 520.881.3993
Phone: 800.459.0400
Fax: 520.881.4983
E-mail:
sales@wheelchairlift.com
www.wheelchairlift.com

Fisher & Paykel Appliances Inc.
(DishDrawer)
27 Hubble
Irvine, CA 92618
Phone: 949.790.8900
Phone: 800.863.5394
Fax: 949.790.8911

Miele, Inc.
(Front Loading Washer and Dryer)
9 Independence Way
Princeton, NJ 08540
Phone: 609.419.9898
Phone: 800.843.7231
Fax: 609.419.4298
www.miele.com

Hardware Considerations

Nearly empty-nesters and approaching age 50 with the rest of the baby boomers, my wife, Ann, and I have designed and built our new “Home for the Next 50 Years.” In doing this add-on to a historic building, we have attempted to carefully consider the universal design implications of every element and space while keeping in mind the actual users – our family and friends. This is an excerpt from my continuing journal investigating issues of universal design in the “Home for the Next 50 Years.”

John P. S. Salmen, AIA

The universal design of operating hardware demands consideration of how the hardware or control is to be operated, i.e. with or without visual coordination, the amount of strength or pressure that needs to be applied to the unit device. In addition to these considerations, we also had the aesthetic concern of blending into the craftsman design look in brushed nickel or stainless steel.

Operation with the proverbial closed fist or “frail” hand was, of course our rule of thumb for the selection of manual hardware in our cabinets and doors.

We found the hefty “Chub” lever handles made by Rocky Mountain Forge gave us the smooth and substantial feel we wanted along with a finish to match the stainless steel/brushed nickel look of the

brushed nickel loop handles and Weber cup pulls on the cabinet doors and drawers. We found the lever handles on the Kohler Fairfax faucets matched our look in a line of reasonably priced kitchen and lavatory faucets, including the pull out spray head used in several of the sinks in the house. The HydroMaid water powered disposal came with a knob handle which we easily replaced with a Delta lavatory faucet lever handle selected to fit the Hydro Maid valve stem.



Reading the display

With wall mounted interactive electronic controls, such as the thermostats, security keypads and lighting/sound controls, we needed to deal with hand-eye coordination as well as manual operation. With a display screen that changes depending on the buttons that are pushed, it is imperative to be able to read the display as you push the buttons.

Unfortunately, for aging eyes that rely on progressive or bifocal lenses, focusing on the small dimly contrasting characters can be difficult if not at the right height and angle. (Sophisticated programming can be done on a laptop computer with great user interface flexibility and portability, running the operating software of the systems, but for day-to-day operation, the wall mounted units also need to be useable.)

We found that it was difficult to place controls with integrated LCD displays at a height that was both reachable from a seated position and still readable from a standing position. One solution was to locate lowered controls, such as the main HVAC thermostat next to the kitchen eating nook bench. From the seated position, it’s easy to read the display as you adjust the temperature in any zone. Although infrequent, programming the day-by-day automatic operation of the furnace/AC to raise and lower the room temperature can take 5-10 minutes at a sitting. The times I spent figuring out and adjusting the system during the first heating cooling season was far more comfortably spent sitting than standing, especially with a nearby table where I could lay the operating manual. 

One solution was to locate lowered controls, such as the main HVAC thermostat next to the kitchen eating nook bench. From the seated position, it’s easy to read the display as you adjust the temperature in any zone.

Indoor Air Quality, from page 14

mally recognize MCS as an illness.

Lamielle remains hopeful, however, pointing out that large public agencies studying MCS validate the significance of the problem. Budget constraints and the business community’s lack of support for research have played a role in slowing progress toward creating more accessible indoor air environments, she said.

“We are working toward healthy environments for everyone,” said Lamielle. “This is important whether you are six years old or 60.”

For a list of suggested resources, contact National Center for Environmental Health Strategies Inc., 1100 Rural Avenue, Voorhees, NJ 08043; 856.429.5358; ncehs@ncehs.org. 

April 15-16, 2003: *Multiple Perspectives on Access, Inclusion & Disability*, Columbus, OH. A two-day conference on disability issues, rights and experiences, sponsored by Ohio State. Contact: <http://ada.osu.edu>.

April 22, 2003: *Unlimited by Design: the Advantages of Universal Design in Affordable Housing*. Day-long conference at the JFK Federal Building, Boston. Sponsored by Citizen's Housing and Planning Association and Adaptive Environments. Contact: jpeckham@chapa.org

May 9-12, 2003: *National Association of Governors' Committees on People with Disabilities Annual Conference*, Washington, D.C. Contact: cbaird@edd.ca.gov

May 12-14, 2003: *The US Architectural & Transportation Barriers Compliance Board* will hold its bi-monthly meeting in Washington, DC. Contact: 202.272.5434(v), 800.872.2253(v), 202.272.5449 (tty) or www.access-board.gov.

June 5-7, 2003: *Early Childhood Outdoors Design Institute*, Raleigh, NC. Sponsored by the Natural Learning Initiative, College of Design, NC State University. Contact: nilda_cosco@ncsu.edu or www.naturalearning.org

June 22-29, 2003: *NDSA National Sports Festival*, Connecticut College, New London, CT. Affiliated with the National Disability Sports Alliance. Contact: 860.267.6757 or visit www.nationalsportsfestival.org.

July 8-10, 2003: *AHEAD Annual Conference*, Dallas. Includes track on universal design in curricula and information. See: www.ahead.org/conference/2003/index.html

Sept. 18-20, 2003: ***Fourth Annual World Congress & Exposition on Disabilities*,** Orange County Convention Center, Orlando, FL. Contact Amy Baum at 212.571.2600, abaum@hiredisability.com or visit www.hiredisability.com.

Nov. 19-20, 2003: *2020 Vision*, a diversity conference for design professionals at the World Trade Center, Boston. Sponsored by the American Institute of Architects Diversity Committee and the Boston Society of Architects. See: www.architects.org/diversity.

Dec. 4-6, 2003: *International Conference on Aging, Disability and Independence*, Washington, D.C.. The conference will bring together researchers, practitioners, business leaders and people involved with aging policy to focus on a integrating perspectives. Contact: www.asaging.org/icadi.

Events to be placed in the UDN Calendar must be submitted to the editor two months before the publication date.

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Takoma Park, MD
20912

Address Correction Requested

