

Universal Design News

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Education and Research Issue

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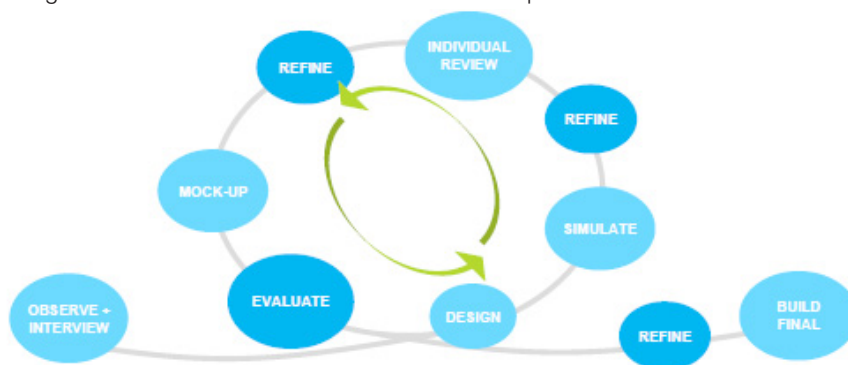
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Modeling What They Teach

by Jennifer Eckel

Architects from the studio at the Institute for Human Centered Design (IHCD) in Boston recently worked on two projects that demonstrate the value of the Universal Design process. The newly constructed Spaulding Rehabilitation Hospital brought stakeholders together in order to gather feedback and research how to better refine the building's design. Boston Architectural College's renovation of a historic firehouse required research into historical archives in order to develop Universal Design solutions that would also address historic preservation.



Designing the Spaulding Rehabilitation Hospital involved a complicated research and design process that gathered feedback from stakeholders and refined the design.

THE NEW SPAULDING REHABILITATION HOSPITAL

When Partners HealthCare set out to replace the old Spaulding Rehabilitation Hospital in the north end of Boston, they turned to IHCD Studio as a consultant to ensure that the Universal Design problems incumbent in the old building were eliminated in the new structure. According to Josh Safdie, AIA, Director of the IHCD Studio, "sharing educational opportunities with architects and clients is part of our mission." Architects of record on the project, Perkins+Will, brought a knowledge of, and commitment to, green building and together the team ensured that the

[See Modeling What They Teach, page 4](#)

Senses and Sensibilities: Hansel Bauman on DeafSpace

by Lindsey Scherloun

"These are subtle things we're talking about," Hansel Bauman says. "The room is a square rather than a rectangle. We paid a lot of attention to color and light, what people are sitting in, the table they're sitting at, the window blinds, all of those boring details. There's something about it. Everyone really wants to sit in that room. It's the only room that's consistently booked for meetings; the president even holds his weekly cabinet meetings there." He's talking about a conference room in building LLRH6, a dormitory on Gallaudet University's campus that was recently built with the principles of DeafSpace.

[See Sense and Sensibilities, page 5](#)

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The Future of Universal Design

I was honored to deliver one of the keynote addresses at the recent Universal Design Summit 5 on May 8, 2013, in St Louis, MO. My presentation, *The Future of Universal Design*, attempted to predict where Universal Design will be in 1, 5 and 25 years from now.

In keeping with the collaborative spirit of the Universal Design process, I asked for input from a variety of thought leaders in the field. This resulted in many visions of the future that these experts shared with me, which were organized into five “areas to watch,”:

- **Information and Communication Technologies**, which includes insights into technologies like 3-D printing and genetic engineering.
- **Inclusive, Healthy and Safe Lifestyles and Communities**, which delves into the idea of design that enhances life and usability for everyone.
- **Design Process**, which considers the collaborative nature of the Universal Design process.

- **Consumer Products**, which imagines how today's developments will lead to tomorrow's products.
- **Mainstreaming of Universal Design into Good Design**, which questions if the term Universal Design will continue to exist once its goals are embraced by mainstream design.

We are living in a period of exponential change in which technology is changing so rapidly that it is hard to imagine exactly what the future will hold. Even so, I believe that our intentions can shape the future. By sharing our ideas of the future, the Universal Design community can form compelling visions that others will embrace to help us achieve the goal of design that empowers people. The insights and concepts in this presentation are just the beginning of a discussion in which we hope everyone interested in Universal Design will participate. Contribute your own thoughts at the link below, and keep this dialogue going to help us all create the future of Universal Design.

The full presentation can be viewed online at www.universaldesign.com/future-of-ud.html. ●

jsalmen@UDConsultants.com

Universal Design News

Universal Design, Accessibility and the Americans with Disabilities Act (ADA)

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E-Mail: jsalmen@UniversalDesign.com.

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Understanding High Contrast and Non-glare Finishes for Signs

by Sharon Toji

For most of us, the one thing that most determines if we can read the text on a wayfinding sign is its contrast, the degree to which the letters on the sign stand out from the background.

Since the world is not black and white (unless we have a severe case of color blindness) most of us think of contrasting colors. We don't have a problem distinguishing red letters from a black background, or green leaves from brown branches. However,

if we want to practice Universal Design, we need to understand contrast in a way that includes not only people with normal color vision, but those with red/green color blindness and other vision impairments that impact color vision.

To address the range of color perception, accessibility standards define color contrast in terms of darkness and lightness. For instance, a sign with dark red letters on a pale pink background provides enough contrast to be legible for someone with red/green color blindness, even though they would be unable to identify the color of the sign as red.

Another important attribute that is related to contrast and necessary for easy-to-read signs is a

[See High Contrast and Non-glare Finishes for Signs, page 11](#)

Monster.Com to Make Website Accessible

Citing high unemployment and underemployment in the blind community, Massachusetts Attorney General Martha Coakley [announced an agreement](#) between Monster Worldwide, Inc. and the National Federation of the Blind that will make [Monster.com](#) the first mainstream job hunting website to be accessible to people who are blind.

The agreement comes after a year of work with those organizations and the Massachusetts Commission for the Blind to improve accessibility of the Monster.com website and mobile applications. To make its services accessible to users who are blind, Monster is ensuring compatibility with screen access software that converts on-screen information to Braille or speech output so that all job seekers can perform the same tasks on the site.

"We are excited to partner with Monster and the National Federation of the Blind to provide access to job opportunities available to individuals who are blind," said Commissioner Janet LaBreck of the Massachusetts Commission for the Blind. "The MCB internship program enables individuals the opportunity to access early work experience. Utilizing accessible technology available on Monster's website to conduct a job search ensures that individuals who are blind can independently and successfully perform the same tasks as other job seeking candidates."

FCC Orders Broadcasters to Translate Emergency Notifications Within Two Years

In April, the FCC adopted an order which gives television broadcasters two years to comply with portions of the Twenty-First Century Communications and Video Accessibility Act of 2010 that require emergency information crawls and graphics to be accessible.

The FCC will require television broadcasters to air an audible tone along with on-screen crawls or graphics, so that people who are blind or have low vision will be alerted that they should switch to a second audio channel. There, broadcasters must air an audio version of the text or a description of the graphic, which can be accomplished through automated text-to-speech technology. These audio emergency notifications must air at least twice, giving consumers enough time to hear all of the information after switching to the secondary audio channel.

The FCC acknowledges that not all information delivered via news crawls rises to the level of emergency information but they did clarify that

"severe thunderstorms and other severe weather events are included within the current definition."

For further information, visit the FCC's [website](#), 1-888-225-5322 (Voice), or 1-888-835-5322 (TTY).

Access Board Forms Advisory Committee on Rail Vehicle Accessibility

The U.S. Access Board has organized an advisory committee as part of its review and update of the ADA Accessibility Guidelines for Transportation Vehicles. The Rail Vehicles Access Advisory Committee will develop consensus recommendations for the Board's use in updating sections of the guidelines that cover vehicles of fixed guideway systems, including rapid, light, commuter, intercity, and high speed rail. These [guidelines](#), which were originally published in 1991, serve as the basis for standards that apply to new or remanufactured vehicles required to be accessible under the ADA. The committee's work will not extend to portions of the guidelines that address buses and vans, which the Board is already in the process of updating.

For further information, visit the Board's [website](#) or contact Paul Beatty at rvaac@access-board.gov, (202) 272-0012 (voice), or (202) 272-0072 (TTY). ●



The U.S. Access Board has organized an advisory committee to review and update the ADA Accessibility Guidelines for Transportation Vehicles.

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project integrated both social and environmental sustainability.

The design process traditionally involves three phases: designing, refining and a final build. A Universal Design process, on the other hand, involves a cyclical process of researching, designing, gaining feedback and refining the design. This cyclical process is repeated multiple times in a variety of media to effectively allow stakeholders with different technical/perceptual competencies to participate in the process. Only then is the design finalized and built. The Spaulding Rehabilitation Hospital's stakeholders included the owner, clinicians, patients, and advocacy groups from whom the designers sought feedback.

Congratulations to **Josh Safdie**, Associate AIA, Director of the Studio at the Institute for Human Centered Design (IHCD) Boston, MA and Adjunct Faculty Member, Massachusetts College of Art and Design (MassArt), who was recently named one of five inaugural recipients of the Berkeley Prize Teaching Fellowship. As part of his application, Josh submitted two syllabi for courses he will teach at MassArt – “Urban Visionaries: Sustainable City/Inclusive City,” and “The 100 Acres: Housing for All.” Each of the five named winners of the Teaching Fellowship will receive cash awards of \$7,500.

The design process started with an “observations and interviews” phase that included research of precedent studies, facility tours of comparable institutions, user group meetings, work sessions and peer review. Feedback from this “observations and interviews” phase was used to start designing the

new building. Next came a “simulate” phase, during which stakeholders toured the existing facility's patient rooms, cafeteria line and public spaces, to better understand the current user experience and identify areas of concern to be addressed in the new design. After further revision of the design, the “individual review” phase once again allowed different stakeholders to offer feedback on the developing design through a series of workshops organized around three areas of concern: Sustainability, Accessibility and Patient Care. Then two full-scale mock-ups of potential patient room designs were



During the “Simulate” phase, stakeholders toured the existing facility to identify issues that the new design would have to address.

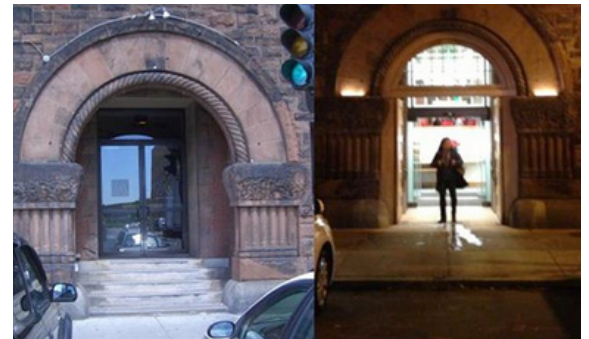
built so that the stakeholders could interact with the space and make further recommendations to refine the design.

This process allowed the design team to develop accessible and flexible patient rooms that are easier for everyone to use; community spaces that allow natural interactions between patients, family and staff; as well as extensive exterior spaces that provide rehabilitation opportunities for patients and enhance the larger community. The Universally Designed exterior spaces include a therapy garden, a walkway along the harbor and an adaptive sports center.

The results of the experiential research process prior to construction helped the design team to create functional and beautiful spaces that will support and motivate people to succeed in their rehabilitation.

BOSTON ARCHITECTURAL COLLEGE

IHCD Studio's Emmanuel Andrade was the architect of record for the renovation of a fire station originally built in 1886 and purchased by the Boston Architectural College in order to house studios, classrooms and gallery space.



Research into historical records allowed the design team to successfully argue for a level entry at the curb.

The building's main entrance posed a vexing accessibility problem, since it included five steps which rose a full three feet to the building's main level. The project's design team needed to remove this barrier while working within historic preservation guidelines, ensuring that the renovation respected the building's original design and streetscape.

The design team examined records and historical research previously uncovered during the renovation of a nearby police station and stables, all of which were designed by the same architect and built around the same time. Luckily, the design team came across a photo of the building which showed storm doors placed at grade at some point during the era of horse drawn carriages. This allowed them to prove to the Back Bay Historical Commission that a level entrance had historic precedence.

Instead of building an external ramp leading to the above grade entrance, the design team created a

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level entrance at the curb. Visitors enter a vestibule and then ascend to the main level along a ramp that runs on one side of main floor gallery space. As architect Andrade explains, “Rather than ‘up, then in,’ this project is ‘in, then up.’”

Throughout the renovation project, the design team worked to maintain as many original architectural features as possible, some of which were discovered through removal of walls and finishes added over the years. Front facing windows were fabricated to

replicate the originals but the historic design was updated with double paned glass for insulation. Original ceiling trusses were revealed in the uppermost studio, original brick walls provide a backdrop for hanging art and even an old fireplace was uncovered and preserved.

Students using the space will live daily with a beautiful example of how architectural preservation and Universal Design can be combined. ●

Sense and Sensibilities, from page 1

In 2005 the ASL Deaf Studies Department at [Gallaudet University](#) began planning the construction of the Sonson Language and Communication Center (SLCC). Architect [Hansel Bauman](#) was brought on to facilitate the first DeafSpace workshop where some of the nation’s leading deaf scholars came together and shared ideas about building for a deaf community. “They weren’t so worried about traditional things,” Bauman remembers, “but rather, could this building find ways to express Deaf culture?”

Inspired by the work of anthropologist Edward T. Hall, which examines the use of space and sensory experience in communication as components of distinct cultures, DeafSpace reflects the emerging Deaf Gain movement within Deaf culture. Deaf Gain represents a significant paradigm shift that redefines the traditional view of deaf as a lack of hearing – a pathology to be corrected—to a unique cognitive, creative and cultural way-of-being from which society has much to *gain*.

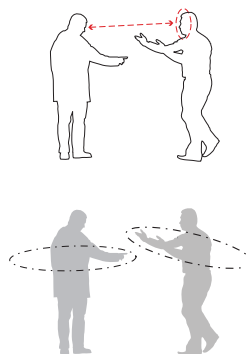
That first workshop generated hundreds of ideas on enabling sign language, visually based wayfinding and cognitive understanding of space. This was the start of the DeafSpace project, an effort to document the aesthetic sensibility and practical wisdom passed down through generations of Deaf culture. Bauman explains that this Deaf aesthetic is deeply rooted in pragmatic practices, much like the aesthetic of a traditional farmhouse that was initially “purpose built but [also] had an aesthetic that you can recognize as being of a place.” The Deaf aesthetic calls for open spaces, the importance of lighting and visibility and providing enough space between people to support visual language. As Bauman reflects, “the room becomes the page on which the language is written, the architecture becomes part of the language.”

Due to the importance of visual language, the Deaf aesthetic has its own way of structuring human interactions, such as the conversation circle. By sitting in a circle, all participants can easily see each other, allowing for conversation and collaboration. “The first thing that happens when you sit down with a group of deaf people is everyone helps

organize furniture, adjust lighting, set the stage for conversation. It happens in a bar, it happens in a classroom. It’s a tradition that holds deaf people in really close connection to the environment,” Bauman says. Since these modifications to the environment are a necessary prerequisite for social interaction, a particular relationship with space has emerged in Deaf culture. “Deaf people will enter a house and see that their friends have remodeled it to be more visual and the first thing they want to talk about is how the design of the space is ‘Deaf.’” While a hearing person might say it’s nice, or looks like a magazine, Bauman observes, “deaf people are truly identifying an embodied culture. [It] suggests you start to think about the environment not as accommodation, but how does it reflect who you are, therefore how does it reinforce your identity and how does that give you cultural agency and power.”

DeafSpace has five basic concepts.

- **Sensory reach** facilitates deaf people’s awareness of their surroundings by enhancing visual and tactile cues.
- **Space and proximity** considers the distance and layout needed for visual communication.



Designing for Space and Proximity aids visual communication by providing a clear view of facial expressions and full signing space.

DeafSpace has five basic concepts:

- **sensory reach**
- **space and proximity**
- **mobility and proximity**
- **light and color**
- **acoustic and electromagnetic interference**

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- **Mobility and proximity** facilitates uninterrupted movement through spaces, even while signing.
- **Light and color** enables visual communication by providing even lighting, eliminating glare and choosing colors that contrast with skin tones to highlight sign language.
- **Acoustics and electromagnetic interference** must be designed to reduce reverberation and sources of background noise, especially for hearing aid users.

Classroom Acoustics Criteria

In January 2013, the ICC A117 Committee on Accessible and Usable Buildings and Facilities voted 24 to 19 in favor of amendments 808 and 809 to establish classroom acoustics accessibility criteria in the nation's building codes. The Committee's approval of the amendment initiates a multi-step process of further consideration and review. The classroom acoustic amendment would limit interior-source noise, clarify measurement and evaluation of noise and require classroom audio distribution/amplification systems. According to Neil Snyder, proponent of the amendment and director of federal advocacy for the American Speech-Language-Hearing Association, "ASHA will work with other organizations to advocate for the inclusion of the classroom acoustics amendment into the International Codes."

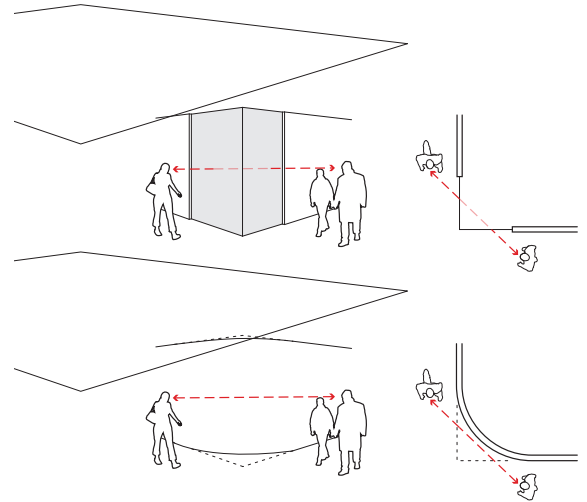
Visit the [ICC website](#) to read the full text of amendments 808 and 809.

The final design (by Smith Group Architects) of the SLCC at Gallaudet is a collection of discrete patterns that support these five concepts: an atrium full of diffuse natural light to minimize eye fatigue and shadows, visual connectivity between multiple floors, a glass elevator and wide, automatic front doors that allow signed conversation to flow uninterrupted as two people enter the building.

The second DeafSpace building, dormitory LLRH6, explored how the design process itself could embody the collaborative nature of Deaf culture. Instead of interviewing architects and selecting

a builder through a bidding process, a design build competition was created. Four architect-builder teams met with the Deaf community at Gallaudet to design the building together. "The builder, the architect, the resident, the concept, they are all one-in-the-same in this model," Bauman says. The winning design (by LTL Architects and Quinn Evans Architects) was chosen both due to its cohesive use of DeafSpace concepts and land forms, as well as the sensitivity and trust built between the school's Deaf community and the building team.

The dormitory's "terrace lounge," made up of four terraces connected by a ramp, can serve as one large lecture hall or be arranged to accommodate cozy small group discussions. The collaborative design process enabled the Deaf community to identify spatial opportunities presented by the site itself, resulting in a space that both responds to the topography and fits the needs and aesthetics of the community.



Glass partitions at corners expand Sensory Reach, allowing people to see those coming from the other direction. Rounding off the corners proved to be a less successful approach in the SLCC Building, as people tend to hug the curves like a race car.

DeafSpace's five concepts use human body space as a starting point for design, rather than the space of urban systems. In this way, DeafSpace resonates with other bodily circumstances and sensory experiences. The textures, vibrations, contrasting colors and acoustical considerations used in DeafSpace can also help people with low vision or who are blind, while the wide open spaces can facilitate wheelchair use. DeafSpace also attempts to address sensory conflicts, for instance using textured patterns to improve predictability for long white cane users navigating a space where furniture is frequently rearranged.

"We're looking at the environment through the senses," Bauman notes, "but ultimately there's a cultural overlay." This attention to cultural expression among people with a common sensory experience is new to the field of Universal Design. "Looking at DeafSpace as the embodiment of a vernacular challenges the paradigm of Universal Design," he adds, "The ADA is not interested in culture or aesthetic expression, and it really underserves all of us, dumbs down the environment to the lowest common denominator. Yes, people do have accessibility, and there are benefits to that, but in the architectural profession we aren't really responding to human diversity: physically, mentally, cognitively, emotionally. We respond to the legislation of ADA or the aesthetic that's set up in design media, and to me that's not really interesting, that's not really sustainable. Couldn't we begin to rethink what is a standard? How do we just become more sensitized to the environment around us? If we can take lessons

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from the vernacular approach, tweak the whole idea of universal, point it in the direction of acknowledging particular relationships and particular places, I think we'll find much more sustainable ways to design whole cities."

"A lot of this work is about redirecting our force toward ground we may have covered centuries ago," Bauman says, as he wonders whether designers can be encouraged to not merely follow accessibility standards, but to actively consider particular environments and circumstances and to ask

whether the architecture supports or hinders cultural expression. Looking toward the future, Bauman envisions a culturally sustainable design philosophy and he recognizes Deaf culture's potential to reorient the hearing world towards this more sensitive relationship with space.

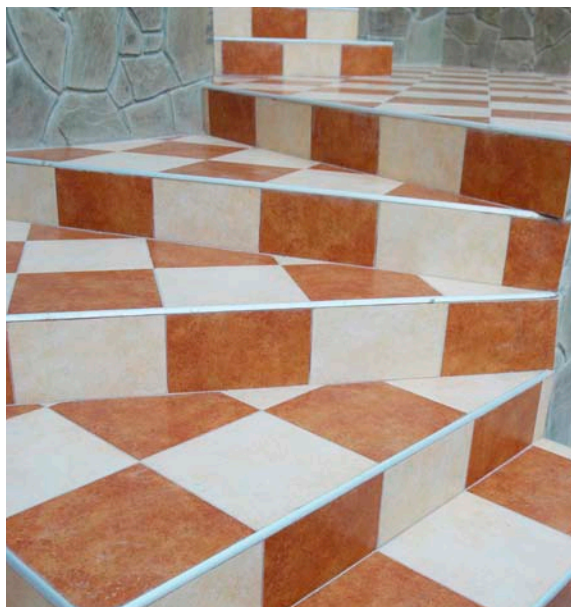
Bauman and his associates will present on DeafSpace at the 2013 Architecture Boston Expo, November 19 – 21.

Quotes are taken from an interview conducted on June 4, 2013. ●



The "terrace lounge" in the LLRH6 dormitory is a flexible space that can accommodate small groups of students or act as one large lecture hall. Photos courtesy of LTL Architects and Quinn Evans Architects.

Bauman envisions a culturally sustainable design philosophy, recognizing Deaf culture's potential to reorient the hearing world towards a more sensitive relationship with space.



Patterned flooring makes it harder to recognize level changes happening at stairs.

PROBLEM:

Patterned surfaces can make it hard to see changes in floor levels, such as steps, thresholds and edges.

TIP:

A study conducted by the Minnesota Laboratory for Low-Vision Research at the University of Minnesota and published in [Optometry and Vision Science](#), found that flooring with a tiled checkerboard pattern made it harder for subjects to see changes in level as compared to a solid flooring color. This was especially true when subjects were wearing goggles designed to simulate blurred vision.

Choose solid colors instead of patterned flooring, where level changes occur. Make sure that stairs have contrasting and slip resistant edging. Consider using contrasting colors to highlight stairs by making the risers a different color from the treads. ●



BURSA, TURKEY/LONDON, UK Designing an Inclusive Taxi

Helen Hamlyn Centre for Design's senior associate, Merih Kunur, and 2013 research associate, Niels van Roij, have partnered with Turkish car maker Karsan and car manufacturer Hexagon to redesign London's black cab taxis to include additional accessible features for people of all ages and abilities. This project focuses on both the interior and exterior, to improve key elements such as the door aperture, and to develop an age-friendly vehicle that can aid independence and mobility for older people while still embodying a contemporary British aesthetic.

LONDON, UK Design that Makes a Difference Exhibition on Inclusive Design

From April 19-26, the [Design that Makes a Difference](#) exhibition showcased 20 inclusive design projects from the UK and Norway, with support from the Royal Norwegian Embassy in London, The Norwegian Design Council and The Helen Hamlyn Centre for Design at the Royal College of Art. Building on the 2010 book [Innovating with People: The Business of Inclusive Design](#) and a seven year long relationship between the Helen Hamlyn Centre and the Norwegian Design Council, this exhibition presented a range of work. It demonstrates a conceptual shift in the design process, whereby people are not simply passive consumers of design problems but become active creators of design solutions. This collection also presents the progress that Norway has made in reaching its goal of implementing inclusive design throughout the country by 2025, a goal first committed to by 16 Norwegian governmental agencies in 2005.

The exhibit showcased revenue-driven initiatives such as inclusive packaging from Nestlé and the results of large-scale people-centered research with

consumers from Norwegian window manufacturer NorDan. Community centered highlights included a Kindergarten adapted from a historic margarine factory, a community forum for elderly people to share skills and an LED streetlight system that allows the residents of one UK village to move freely in their neighborhood. Michael Wolff, UK Government Adviser on Inclusive Design and the exhibit's keynote speaker, said, "This exhibition is not just about inclusive design, it's really about good and effective design. It shows how design can make the world work better."

BHOPAL, INDIA Center for Human Centric Research National Student Design Competitions (NSDC)

The theme for NSDC 2012 was *Universal Design for Exploring the World Heritage Sites in India*. Students were encouraged to imagine 'out of the box' accessibility solutions that maintained the original fabric of various Indian world heritage sites. The competitions were organized to explore alternative methods of teaching Universal Design. Some notable design elements that emerged from the student's projects include low fuel transportation systems and the design of an all-terrain wheelchair at Bhimbetka, an ancient geological formation covered in forest, as well as a multi-purpose walking stick and audio guides in local languages at the partially accessible Qutub Minar mosque complex in Delhi.

The competition was organized in collaboration with Archaeological Survey of India (ASI), UNESCO, DRONAH (Development and Research Organization for Nature, Arts and Heritage) and National Association of Students of Architecture (NASA). Entries by Design for All Institute of India School of Planning and Architecture students were published in the [April 2013 Design For All Newsletter](#). ●



Researchers from the Helen Hamlyn Centre for Design are partnering with Karsan and Hexagon to redesign London's black cab taxi.

The Design that Makes a Difference exhibition presented a range of work demonstrating a conceptual shift in the design process, whereby people are not simply passive consumers of design problems but become active creators of design solutions.

Dyson Airblade Tap

Hand dryers can be inaccessible if mounted at the wrong height or if they protrude more than four inches from the wall (becoming a protruding object.) The Dyson Airblade Tap solves these potential problems by incorporating the hand dryer directly into the lavatory faucet. The center of the Airblade Tap dispenses water, while the two side bars create a curtain of air that blows water off of hands and into the sink basin below. The Tap includes touch free operation, a HEPA air filter and a powerful motor that can move enough air to dry hands in only 14 seconds. With the Dyson Airblade Tap there is no need to move to a separate hand drying area, so less water is dripped all over the floor and space within the bathroom can be used more efficiently.



After washing their hands under the center tap, users can dry them under the two side bars.

Dyson Airblade Tap

1-866-693-9766

www.dyson.com

Siedle Status Display

1-610-353-9595

<http://www.siedle.de>

Ivee Alarm Clock

1-800-746-3903

www.helloivee.com

Siedle Status Display

The Siedle Status Display is a display screen that can be combined with Siedle intercom systems in order to provide visual indication of the intercom's audible functions, now required by the 2010 ADA Standards. The status display has four intuitive symbols: a bell that indicates that your party is being called, a mouth that indicates that your party has answered and is ready to hear a message, a key that indicates that the electrical door latch (door buzzer) has been activated and finally a mouth with a slash indicating that there is no response from the party called. By including a redundancy of perceptible information, the Status Display provides accessibility for people who are deaf or have hearing loss, but it would also be useful for anyone trying to use the intercom in a noisy city environment.



The Siedle Status Display provides a visual indication of the intercom's audible functions.

Ivee Alarm Clock

The Ivee Alarm Clock is a voice-activated and talking alarm clock that has been recognized by the World Blind Union for its accessibility for people who are blind or have low vision. The clock is easy for everyone to use, because it listens and responds to your verbal commands. The clock can verbally tell you the time, date, temperature and much more. Simple natural language voice commands can be used to set the alarm, start the timer, turn on the built-in FM radio, turn on one of six relaxing sleep sounds or turn on the night light. Simply say "hello ivee" to get started, and the clock will ask you what you would like to do. ●



This voice-activated clock can read aloud the time, date, temperature, and much more.

BOOK REVIEW

Independent for Life: Homes and Neighborhoods for an Aging America

Edited by Henry Cisneros, Margaret Dyer-Chamberlain and Jane Hickie.

Published by the University of Texas Press, Austin.

Independent for Life is a collection of writings from 26 authors, who explore how to support Aging in Place in these changing times. In his foreword to *Independent for Life*, John W. Rowe, MD states, "We are entering a period of rapid change in many of society's key institutions, including housing, retirement, labor markets, education, transportation, religious communities, neighborhoods, political parties, national defense and the family itself."

communities, as well as individuals and their families.

The authors are an interdisciplinary collection of strategists including architects, urban planners, gerontologists, economists, civic leaders, elected officials, developers and builders. The book covers information on remodeling current housing, building new accessible homes, planning new age-friendly communities and retrofitting existing neighborhoods to connect necessary services. Community leaders, planners, housing professionals, builders and others hoping to address the needs of their aging communities will appreciate the extensive bibliographies and references provided in each chapter.

The book has compiled "to do" lists that give readers concrete steps they can take to improve the aging experience in their own communities. While the book's breadth of topics and thorough use of supporting data is worthy of a textbook, the subject matter has been well edited to be easily understood by the average layperson. The layout's clean design, ample white space and use of illustrations also make the book an easy read.

The Honorable Henry Cisneros, former secretary of the U.S. Department of Housing and Urban Development and four-term mayor of San Antonio and Executive Chairman of the urban planning company CityView, joined forces with Margaret Dyer-Chamberlain, the Stanford Center on Longevity's Managing Director, and Jane Hickie, Director of the Politics, Scholars, and the Public Program, to produce this book. The book was made possible with grants from the MacArthur Foundation Research Network on an Aging Society, The Home Depot Foundation, MetLife and Freddie Mac. In his concluding remarks, Cisneros identifies three priorities that must be met to ensure that seniors can live independently and with dignity: Housing and Community, Services and Education.

The book's many case studies, descriptions of best practices and illustrated examples provide a compelling narrative for the urgent assessment of the livability of 21st century communities. ●

The book's many case studies, descriptions of best practices and illustrated examples provide a compelling narrative for the urgent assessment of the livability of 21st century communities.



For more information on this title, visit the University of Texas Press' [website](#).

America's fastest population growth is among people over 65. This demographic trend demands that successful Aging in Place solutions involve

High Contrast and Non-glare Finishes for Signs, from page 2

lack of reflection or glare. Highly polished signs are difficult for everyone to read, and virtually impossible to read for people with a variety of vision impairments, especially cataracts. Even relatively young people can have incipient cataracts, which can cause them to be affected by light reflecting off signs.



This sign's finish creates reflections and glare, making the sign extremely difficult to read.

In accessibility standards for signage, contrast and glare are dealt with under the heading of "finish." The only people who are not affected at all by lack of contrast and reflective finishes are those with no usable vision: those who read by touch.



California accessibility code requires circular signs for women's restrooms, triangular signs for men's restrooms and a triangle on top of a circle for unisex restrooms. In this case, the purpose of the signs has been defeated by choosing the same brown shade for both signs.

The current standard is vague, requiring only "light on dark" or "dark on light" because of two problems: there is a flaw in the current contrast formula, which

uses light reflectance values (LRV) to determine a contrast percentage, and there is no inexpensive tool that an inspector can use to measure the contrast of signs out in the field.

Glare can be measured more easily, although still not in the field. Designers must request the gloss reading for the materials that they want to use. Gloss should not have a reading higher than 19, according to the Appendix recommendation in the 1991 ADA Accessibility Guidelines.

The "contrast" study group of the ICC A117 American National Standards Committee on Accessible and Usable Buildings and Facilities, has recommended that the standards be revised to reflect the following formula, and that the light reflectance value (LRV) of the lighter color be no less than 45.

$$\text{Contrast} = (B1 - B2) \times 100 / B1$$

B1 = light reflectance value (LRV) of lighter area

B2 = light reflectance value (LRV) of darker area

As an example, if we have a light color with an LRV of 45 and a dark color with an LRV of 13, then the difference between them is 32. Using the formula, we multiply the difference (32) by 100 and then divide by the LRV of the lighter area (45) resulting in a contrast of 71 percent, which complies with the requirement for 70 percent minimum contrast.

Designers can easily find thousands of acceptable combinations in any swatch book. Use them! High contrast between backgrounds and text, and lack of glare help provide universal access for the important goal of finding our way. ●

Sharon Toji is the owner and manager of signage contractors H. Toji & Company, president of signage consultants Access Communications, and president of the wholesale signage design and fabrication company ADA Sign Products. Toji is a voting delegate of the American National Standards Committee on Accessible and Usable Buildings and Facilities, and has served on numerous California state committees dealing with accessibility.

Here are a few common sense ways to check contrast:

- The LRV of many materials and paints is easily obtainable directly from manufacturers. Check the contrast between your chosen colors using the formula in this article, choosing a lighter color with a LRV of no less than 45.
- Get a paint swatch book with many shades, and find a close match for the colors you wish to use. Look at the two color swatches separately. Would you call them light, dark, or medium shades? When you put them together, their definitions won't change. The contrast standard calls for dark vs. light, not "lighter" vs. "darker!"
- To check the contrast of a sign, you can use a photocopier to make a black and white copy. If the two shades of gray seem very close then the contrast is not adequate.

Calendar

Education Opportunities in Universal Design, 2013 - 2014

- + Do you know about an event not listed here? [Click here to let us know about it.](#)
- + For the latest, up-to-date calendar of UD education and training, visit UniversalDesign.com

July 5-6

- + [Open Design / Shared Creativity: 2nd International Conference | Barcelona, Spain](#)

July 11, 2:30 - 4:00pm EST

- + [Webinar: Section 508 – Accessible Web Content \(WCAG 2.0\) from Accessibility Online](#)

July 16, 2:00 - 3:30pm EST

- + [Webinar: ADA Anniversary Update: 23 Years Later from Accessibility Online](#)

July 17, 2:00 - 3:30pm EST

- + [The Anatomy and Myth of the ADA Drive-By Lawsuit from ADA Online Learning](#)

July 24, 9:00am - 5:00pm EST

- + [Seminar: Residential Universal Design and Aging in Place with Mary Jo Peterson and Cynthia Leibrock | Cambridge, MA](#)

Aug. 1, 2:30 - 4:00pm EST

- + [Webinar: Accessible Transportation Facilities from Accessibility Online](#)

Aug. 7 - 8

- + [Intersections: Arts and Special Education Conference, 2013 | Washington, D.C.](#)

Aug. 12 – Sept. 8

- + [Online Course: UD and Housing 2: Design Applications from IDEa Center](#)

Aug. 12 – Sept. 8

- + [Online Course: Design for Health, Wellness, & Social Participation from IDEa Center](#)

Aug. 19 - 23

- + [Leadership Exchange in Arts and Disability \(LEAD\) Conference | Washington, D.C.](#)

Aug. 20, 2:00-3:30pm EST

- + [Webinar: Athletic Opportunities for Students with Disabilities: Focus on Colleges and Universities from Accessibility Online](#)

Aug. 29-31

- + [7th International Convention on Rehabilitation Engineering and Assistive Technology \(iCREATE\) 2013 | Gyeonggi, Korea](#)

Sept. 5, 2:30 - 4:00pm EST

- + [Open Question and Answer Session with U.S. Access Board from Accessibility Online](#)

Sept. 12, 2:00 - 3:30pm EST

- + [Webinar: Unlocking the Mystery of the 2010 Standards for Lodging - ADA & Lodging Webinar Series from the ADA & Lodging Webinar Series](#)

Sept. 12

- + [Webinar: New ADA Accessibility Standards: What Do They Mean For Your Campus' New and Existing Facilities?](#)

Sept. 17, 2:00 -3:30pm EST

- + [Webinar: Building Blocks for Accessible Health Care from ADA Online Learning](#)

Sept. 18-19

- + [Mid-Atlantic ADA Update | Baltimore, MD](#)

Sept. 19, 2-3:30pm EST

- + [Webinar: Creating Accessible PDFs – Part 1. Building Accessibility into Source Documents with Judith Stark from ADA Online Learning](#)

Sept. 30-Oct. 3

- + [2013 USBLN® 16th Annual Conference & Expo Sponsor: U.S. Business Leadership Network \(USBLN\) and Job Accommodation Network \(JAN\) | Los Angeles, CA](#)

Oct. 16-18

- + [NAHB Remodeling Show | Chicago, IL](#)

Oct. 21 – Nov. 17

- + [Online Course: Defining Universal Design from IDEa Center](#)

Nov. 4 - 7

- + [National Association of ADA Coordinators 5th National Conference | San Diego, CA](#)

Nov. 14

- + [Webinar: Aging in Style Kitchens and Bathrooms from American Society of Interior Designers](#)

Nov. 19-21

- + [Architecture Boston Expo | Boston, MA](#)

Nov. 21, 2:00 -3:30pm

- + [Webinar: Advanced Accessible PDF - Part 2: Tables, Forms, and More! with Christy Blew University of Illinois at Urbana-Champaign ADA National Network Accessible Technology Webinar Series](#)

December 12, 2:00 - 3:30pm EST

- + [Hotels: Weaving an Accessible Welcome Mat. ADA & Lodging Webinar Series with Nancy Horton from the ADA and Lodging Webinar Series](#)

2014

Feb. 4-6

- + [2014 International Builders' Show | Las Vegas, NV](#)

March 11 -15

- + [Aging in America Conference | San Diego, CA](#)

May 3-6

- + [Environments For Aging | Anaheim, CA](#)

June 26-28

- + [AIA 2014 Convention | Chicago, IL](#)