

New Products

"Creating designs that work for everyone"



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Two magazines that are on my list of must-read issues are the Popular Science and Time Magazines' best new inventions of 2008.

This year an amazing product that got my attention immediately was the Touch Sight camera. It makes it possible for the visually impaired to take pictures. The photographer holds the camera up to his or her forehead, and a Braille-like screen on the back makes a raised image of whatever the lens sees.



Another revolutionary invention that has its origins in research carried out by UK's National Health Services (NHS) over 20 years ago, has been named as one of TIME Magazine's best inventions of 2008. The world's first commercially available bionic hand, the i-LIMB Hand, invented by David Gow, NHS Lothian, and developed by Livingston-based Touch Bionics, is rated 14 overall in TIME's best inventions of 2008. The world's first bionic hand took many years to develop, beginning with a program of research work at NHS Lothian's bio engineering centre in Edinburgh. The key innovation is that it is multi-articulating, meaning each finger has its own motor. The i-LIMB looks and acts like a real hand with subtle capabilities, like a credit-card grip for grasping narrow objects. It also has a power hold for larger items like coffee mugs.



Changduk Kim and Youngki Hong, designers out of Korea have embarked on the concept of a universal toilet.

(www.universal-toilet.com). Although various public amenities for individuals with disabilities are available, they are not always helpful. For instance, some toilets are hard to use for those in a wheelchair even though the toilets are within the law's guidelines. The Universal Toilet aims to make public environments more accessible and more inclusive. It incorporates universal design principles in a way that creates a toilet equally useable by all members of society and prevents people from feeling singled out for their disability.

The Universal Toilet considers all requirements for a toilet, such as target users, space and facility expenses. The design also incorporates a sink. Its major feature is its adaptability to both the disabled and non-disabled through the dual-function backboard and chest board. It also offers considerable space efficiencies, requiring only a quarter of the space of a standard disability toilet. In addition, it conserves water by recycling the water used in the attached sink.



tomization' where designers offer the purchaser the opportunity to add a personal touch to goods was increasingly common. "I think it's quite rewarding letting people design their own things." He is particularly excited about 3D printing (www.dimensionprinting.com) and the possibilities that could one day open up. "I can imagine in the future if I was after something like a new dish-mat, I will be able to buy it online and by printing, it gets manufactured in my own home." He envisaged being able to purchase the raw materials for such items and then input them into the machine.

Don Norman, design Professor at Northwestern University in Illinois, and the author of "The Design of Future Things," is issuing a challenge to designers and engineers across the world: Create things that work for everyone. "It is about time we designed things that can be used by ALL people -- which is the notion behind accessible design. Designing for people with disabilities almost always leads to products that work better for everyone."

Once the champion of human-centered design -- where wants and needs of individuals are the primary consideration in the design process, Norman now believes accessible activity-centered design is a better approach. This approach creates designs by looking at the job a person needs to achieve in using a particular technology. Including individuals with disabilities in this thought process would create better technologies for all people, regardless of their level of ability." Make cans and bottles that a one-handed person can open and guess what, many people will find it makes their lives easier when they only have one free hand.

Despite such innovation, Norman said there would still need to be a shift in the mindset of many major companies. "The most important first step is to increase the awareness of designers and companies of the need to accommodate everyone. Individuals with disabilities are not just some small, disenfranchised group: they represent all of us. So the first step is education, awareness, and empathy." A change in the thought process of designers would also require support and active participation of people with the disabilities being designed for, he said.

Norman also hoped for some more care to be taken with these designs. "Why are so many aids so ugly? Why can't we rally the design community to make beautiful, elegant canes, walkers, wheelchairs, and other items?"

"What we should do is understand the job the person is trying to do. Don't try to predict what a human will do. You will get it wrong," he said. Some of Norman's favorite technologies of the contemporary era include the Nintendo Wii navigation systems in cars, and Google Maps with the option of being able to select driving or walking.

Norman was also supportive of users of technology could have input into how it functioned. He said 'mass cus-