Committed to Access
## HP innovation lowers barriers to technology use

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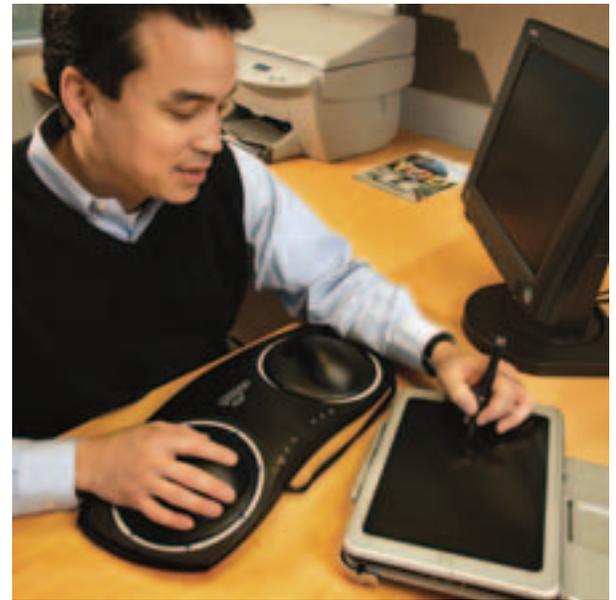
When a Canadian assistive technology company developed a revolutionary computerized travel guide for the blind, it chose HP's versatile iPAQ Pocket PC handheld as the platform for its solution.

VisuAide's Trekker GPS-based system combines GPS information, talking digital maps and talking menus to give users real-time information about their location and surroundings. Operating on an HP iPAQ, the compact Trekker system is worn over the user's shoulder, and announces street names, intersections, stores, restaurants and other attractions as the user approaches them.

Montreal-based VisuAide is one of many assistive technology providers partnering with HP through the company's Accessibility Program Office and the HP Developer & Solution Partner Program (DSPP). The program helps independent software vendors, developers and system integrators create unique accessibility solutions based on HP platforms and operating systems.

"We're committed to ensuring that HP's products, programs, services and information are accessible to people with disabilities," said Michael Takemura, director of the company's Accessibility Program Office. "That's consistent with our company's DNA, creating products that improve the lives of our customers and allow them to use information technology in a very useful way."

The DSPP is part of HP's global effort to connect people with technology. And it results in solutions that dramatically lower barriers to the use of high-tech tools and information.

For instance, HP worked with another accessibility partner, Keybowl Inc., to make an innovative keyless keyboard completely interoperable with HP products without special programs or drivers.

Keybowl developed the orbiTouch Keyless Keyboard to support users with limited or no motion in their fingers and victims of carpal tunnel syndrome or repetitive stress injury.

Linked to an HP desktop or notebook, the product allows citizens who can't use traditional keyboards to access computer technology at home and in the workplace.

The orbiTouch features a pair of ergonomically sculpted domes that move to enable "typing" of characters with the same precision as pressing a key. Each dome can be positioned in the eight major directions of the compass, providing the ability to type 128 characters.

Built-in accessibility

Accessibility is a vital concern for all levels of government as technology becomes a fundamental tool for streamlining internal operations and delivering services to citizens. DSPP and other HP accessibility initiatives promote solutions that help state and federal agencies meet growing accessibility regulations, and they enable more citizens to take advantage of e-government offerings.

Besides partnering with specialty companies, HP engineers its own products with access in mind. The company considers accessibility during the earliest stages of product design so these features are seamlessly integrated and cost-effective. HP was the first information technology manufacturer to document the accessibility features of all its products and make that data available online.

These efforts help make HP products like the iPAQ the technology platform of choice for numerous specialized solutions. Besides VisuAide's Trekker, iPAQs also power job training and coaching solutions for children with disabilities, portable communication solutions for citizens who cannot speak, and mobile e-mail and Internet solutions for people who are blind or have limited vision.

HP's internal commitment to accessibility also results in changes that make mainstream technology easier for anyone to use. For instance, HP redesigned its notebooks several years ago to eliminate dual latches that held the screen closed. The single-latch design offers multiple benefits.

"We used to put a latch on both sides of the case. Imagine trying to open a notebook computer with one hand, or with a mouth stick if you are paralyzed," Takemura said.

But changes such as these don't just benefit citizens with permanent physical or cognitive disabilities. In many cases, accessible design is simply good design that makes it easier for anyone to benefit from technology tools and electronic information.

"The single latch on HP notebooks isn't just better for people with disabilities, it's also easier to use if you're trying to open your notebook while talking on a cell phone or holding a cup of coffee," Takemura said. Furthermore, the new design uses fewer moving parts—cutting cost and improving reliability.

"If we understand the requirements for our customers with the most profound disabilities and build to them, we will improve our products for all of our customers and make them more accessible for all of our customers," said Takemura. "It's not only a good thing to do, it's the right thing to do."

Broad impact
Accessibility features play a growing role in technology-buying decisions for government agencies.

For example, HP met rigorous accessibility requirements to earn a contract for printers, copiers, faxes and all-in-one products from the Swedish National Agency for Services to Universities and University Colleges. The contract, worth 70 million Euros over two years, was one of three Swedish government contracts won by HP in 2003. Under accessibility standards set by the Swedish public administration, technology products must be suitable for users with limited mobility and vision.

In the United States, Section 508 of the Rehabilitation Act requires federal agencies to purchase IT products that are accessible to people with disabilities. More than 20 state governments also have enacted procurement regulations specifying the purchase of accessible IT products—and most of these rules are based on the federal Section 508 guidelines. Furthermore, nearly all states have adopted policies or laws spelling out their commitment to technology that is accessible to all citizens.

Accessibility initiatives such as these impact a broad cross-section of society, according to Takemura.

In the United States, there are an estimated 54 million people with disabilities, and that number grows to more than 500 million worldwide, he said. "One out of every three families includes a person with a disability."

And accessible technology isn't strictly for citizens with profound disabilities, such as blindness, deafness or paralysis. Many others cope with temporary or situational disabilities.

"Maybe you sprained your wrist playing football over the weekend. As we grow older, our eyesight can deteriorate. Or you could have an ear infection and be temporarily hard of hearing," Takemura explained. "In fact, there's a good chance we'll all face some of these disabilities—either permanently or in certain situations—over our lifetimes."

Accessibility features also benefit an aging work force. More than half of the U.S. work force will be 40 years old or older by 2010, according to the federal Bureau of Labor Statistics. And the trend is likely to continue as the number of people entering the work force declines and older workers delay retirement.

Forrester Research recently found that 57 percent of current working-age computer users may benefit from accessible technology because of mild to severe impairments in vision, hearing, dexterity, speech and cognitive abilities.

"There is a 100 percent chance we're all growing older," said Takemura. "And as we age, there is a greater chance that we will require some type of assistance using technology."

Community action
HP accessibility efforts also include participation in programs to bring assistive technology to communities.

The company created the Library Technology Access (LTA) initiative to develop accessible computer workstations for libraries nationwide. Partnered with the Association of Specialized and Cooperative Library Agencies—a division of the American Library Association—HP created computer workstations that address needs of library patrons with visual, hearing, mobility and learning disabilities.

In phase one of the project, HP provided workstations to libraries in Cleveland, Milwaukee, San Diego and Johnson County, Kan., as well as to facilities at Arizona State University and the University of South Dakota.

"We wanted to build a reference platform and demonstrate its versatility for helping people with various disabilities," Takemura said. "The success of the program at these six libraries shows we have developed a good working model that can be easily replicated."

HP also supplies accessible technology to The Disability Network (TDN), a community-based nonprofit organization in Flint, Mich. The nine-year-old organization is committed to helping people with disabilities participate in all aspects of their communities. TDN currently serves more than 4,000 people and is one of 300 Center for Independent Living facilities in the United States.

HP supplied TDN with desktop and notebook PCs, network laser printers, inkjet printers, scanners and networking gear.

"HP technology enables TDN to extend the Community Technology Center's capacity to provide access to additional assistive technology training, hands-on access to accessible computers, e-mail and the Internet," said TDN Accessibility Specialist Luke Zelley. "Access to this training increases the technical literacy skills of all citizens, including those with disabilities, and improves their opportunities in all facets of life."

Improving opportunities for all citizens is the cornerstone of HP's accessibility initiatives.

"We are at the edge of a new world—it's a world where technology enriches our lives in a way that is valuable, friendly, useful and accessible to all," said HP Chairman and Chief Executive Officer Carly Fiorina. "HP has made a public commitment to provide leadership in designing accessible products and services for people with disabilities."

For more information on how working with HP can benefit you, contact your local HP representative, or visit http://www.hp.com

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