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For the Disabled, More Power for Play

GPS devices and airport videophones are just some of the latest gadgets that can help people with disabilities enjoy travel and leisure

By [Suzanne Robitaille](#)

Assistive technologies are prevalent in the workplace, but when people with disabilities gear up to have some fun their options are more limited. This may seem like an oversight, but it's not: Disability protections have mostly focused on boosting jobs for this group, and employer demands for computers, mouse alternatives, and similar assistive technologies have soared over the last decade.

With the New Year, the landscape will be altered—for the better—for the nation's 56 million disabled Americans. President Bush in September signed the Americans with Disabilities Amendments Act, which will go into effect Jan. 1, 2009. The act will expand on the original 1990 law to include more disabilities that affect "one or more major life activity," such as learning disorders, among many others. It will also clarify that a major life activity doesn't just include work. The act expands this definition to include communicating, reading, and other activities of central importance—such as plain old fun. The new requirements for businesses have not yet been spelled out.

BIG MARKET

The ADA Amendments Act marks an important milestone for Americans with disabilities, and also offers new opportunities for companies to design and market more accessible products and services. Even without the law, doing so makes good business sense. One in five Americans has a disability, representing a \$200 billion market of consumers eager to spend on technologies that will improve their lives.

A handful of technology providers have taken the lead in putting more pleasure into pastimes for people with disabilities. Some companies, such as Microsoft ([MSFT](#)), already have a foothold in workplace assistive technologies, and they're now expanding into new scenarios. Others came to the assistive technology market by accident—having realized their products were life-changers for the disabled at play. Either way, they've all had a hand in opening the market for technologies that are making life more playful and productive for people with disabilities.

The travel industry is at the forefront of providing accessible technologies, partly because airports and airlines are public spaces and must comply with many existing ADA rules. Chicago's O'Hare and Midway airports are exceptionally innovative. In September 2007, O'Hare began offering public videophones that let deaf and hard-of-hearing travelers place calls in sign language with the help of a 24-hour, free video relay service. At the push of a button, a human sign-language interpreter comes up on the screen to help the customer place the call and communicate their message. These multilingual, touchscreen videophones also provide tourist and transportation information and read airport announcements. Midway began offering the videophones in early 2008, and Phoenix Sky Harbor International Airport now provides a similar service. "If the travel industry doesn't adapt, its customers will be literally stuck at home," says Eric Lipp, founder of Open Doors, an organization that promotes accessible travel. The cost of each videophone to the airport: \$8,500, but they're free to use by anyone in the airport.

As many road-trippers know, traveling in unfamiliar territory can be an exercise in frustration, one that's made easier with global positioning systems. Unfortunately, most GPS programs are designed for car travel, not pedestrian travel, which renders it useless to people who are blind. One solution: Mobile GEO from Barcelona-based Code Factory, which makes the only GPS navigation software for Microsoft Windows' Mobile-based smartphones, pocket PC phones, and PDAs.

With Mobile GEO the listener, using a Bluetooth headset, hears a voice give detailed instructions on how to get from here to there, like so: "Walk 200 yards south, cross the street, and Starbucks ([SBUX](#)) will be on the northwest corner of 18th Street and Broadway." Landmarks are preprogrammed, but users can insert their own notes to help them avoid scaffolding or blockades. Mobile GEO, which was released in July in the U.S., runs on devices from AT&T Wireless ([T](#)), Sprint ([S](#)), [Verizon Wireless](#), [T-Mobile](#), Hewlett-Packard ([HPQ](#)), Motorola ([MOT](#)), [Samsung](#), and other manufacturers. It costs around \$900 for the mobile phone, software, and headset.

TEMPORARY HELP

Even those who don't have a permanent disability—a bad fall on the ski slopes, perhaps?—can benefit from assistive technology. Take Arel Wentz from Livermore, Calif., who broke her foot and considered canceling an upcoming cruise with her husband. Instead, she used a wheelchair, and luckily, she sailed on Royal Caribbean's Celebrity Solstice, which has introduced new accessibility standards for the high seas: pool and whirlpool contraptions that lift wheelchair users in and out of the water; automatic doors for the ship's 30 accessible staterooms; and for the deaf, lights that flash when a restroom stall is occupied.

Walt Disney World ([DIS](#)), quite possibly the epitome of fun, "goes above and beyond what the ADA requires in its theme parks," says Stephen Ashley, author of *Walt Disney World with Disabilities*. Deaf and hearing-impaired park-goers can follow the thrills at Magic Kingdom, Epcot Center, and Hollywood Studios in Orlando with a PDA-sized closed-captioning device that's free to use with a \$100 refundable deposit. The sleeker, lighter 2008 version of the narration device now has descriptive audio for visually impaired guests. Disney also offers several wheelchair-accessible rides.

Those looking for a more mature experience can enjoy many national parks and zoos with the GPS Ranger, a handheld that uses GPS coordinates to trigger an audio and video commentary of the immediate area. Software designer Lee Little, founder of BarZ Adventures, invented the GPS Ranger after a family visit to Yellowstone National Park, where there was no ranger available to answer his questions about the park's geysers. Little realized his new device could also be useful for people with all kinds of disabilities, including those with hearing, sight, and mobility impairments. The GPS Ranger is truly a multitasking gadget. Since March 2008, deaf users have been able to watch a sign-language video interpretation of a park or zoo tour on the device's four-inch screen. Those with mild or moderate hearing loss can watch with subtitles. Real-time audio descriptions aid visitors with vision impairments, and for wheelchair users, an interactive GPS map provides the location of accessible ramps, parking, and restrooms. The GPS Ranger can be rented at two dozen zoos and parks, including the Dallas Zoo, Zion National Park in Utah, and Independence Hall in Philadelphia. It costs about \$15 to rent for the day.

Apple ([AAPL](#)) has been making a serious footprint with accessibility, including improvements in September to the latest version of its popular iPod music player and the iTunes 8 music library. The fourth-generation iPod nano now has speech capability that can be enabled via iTunes on a Mac or PC during the sync process that creates spoken names for everything on the iPod. The font sizes can also be enlarged from the settings menu. Apple also plans to install technology in iTunes by June 2009 that will make the entire library accessible, guided by a voice that calls out whatever a mouse pointer slides over, including file commands and music and movie titles. The price for the iPod nano starts at \$149.

FROM WORD TO AUDIO

Not to be outdone, Microsoft opened its Inclusive Innovation Showroom in October to demonstrate how various assistive technologies can work as a system. One popular technology is "Save as DAISY," a free plug-in for Microsoft Word that allows text to be converted into voice and searched with vocal commands using the digital accessible information system format, or DAISY. This is the standard audio file for the blind and is considered superior to MP3 because DAISY uses metadata to find chapter headings, bookmarks, and page numbers. "There's no way to tell an audio file to go to page 20 unless it's in DAISY format," says Daniel Hubbell, accessibility technical evangelist for Microsoft. The best use for "Save as DAISY" is for blind students seeking audio versions of class lessons, or avid readers seeking a talking version of say, the latest Oprah book pick, which usually can be found on Audible.com and Bookshare.org for a small membership fee.

Using DAISY format, a talking book can be played using Windows software such as EasyReader, which is \$60, or on a portable DAISY player.

Readers with dexterity issues may appreciate the electronic page turner on Kindle, Amazon's wireless book reader, which costs around \$350. However, there's currently no DAISY support to aid people who are blind, though this could change as Amazon ([AMZN](#)) purchased Audible.com in January. Under the new ADA amendment, the disabled can expect more accessible options if Kindle becomes the de facto e-reader for students and professionals.

Due out in 2009, the Survivor Speech Companion System from Kessler Foundation and O'Brien Technologies will offer a new communications option for people who cannot speak, often because of a stroke or brain injury. Speech Companion is a handheld touchscreen device that comes preloaded with a list of places, conversations, and pictures, such as popular phrases, stores, and restaurants. Basically, it is a talking machine that's customized to resemble the user's natural voice while he recovers. Survivor Speech Companion is best used with a family member or caregiver who can intercept specific requests, such as "Please take me to Best Buy so I can purchase a TV." It can also, for example, ask a waitress, "Can I have a hamburger, cooked medium well, with lettuce and American cheese?" Many insurance plans, including Medicare, will cover the cost of the device, which will run around \$6,000.

Larger technology providers may already have an edge—and an audience—for bringing new assistive technologies to disabled consumers. Yet the field is wide open for companies seeking a lucrative new niche in a growing market that would undoubtedly welcome more fun and games.

Suzanne Robitaille writes on disability issues and assistive technology. Her blog is [Profoundly Yours](#).