

Everyone deserves access to technology, online world

By Jim Fruchterman and Gregg Vanderheiden - Special to The Bee
Published 12:00 am PDT Sunday, June 17, 2007



The Web Site of The Sacramento Bee

As technology races ahead at an ever-increasing pace, more and more of society's activities are moving into an online digital world that requires unfettered access. Although many of us may feel like we're falling behind technologically, large groups of Californians face barriers that block their access to the online world. People with disabilities, seniors, the poor and those without strong reading skills are facing ever-increasing obstacles to technology use. Since technology is becoming essential to education, business, personal finance, politics, entertainment and shopping, if we don't do something, we may find someone we love, or even ourselves, left behind.

We need to commit ourselves to delivering a base set of technological capabilities to all people, starting with Californians. At an affordable price, everybody should have access to communications technology and content to meet their personal, social, educational and employment needs. We need to raise the technology floor so that all of our citizens have at least the basic tools they need to participate in our modern society.

This isn't about charity any more than putting ramps on buildings for wheelchair access. It's far more just and cost-effective for society to provide equal access so that people can help themselves. As our society ages, and as our society increasingly depends on digital communication and content for fundamental activities, most of California's families will need at least basic access to ensure that people are as independent as possible. This will not only increase the quality of life for many with disabilities, but it will also decrease our dependence on families and public services that can become more costly as we age. To remain globally competitive, we need to ensure that all of our citizens have the tools they need to participate independently in our school and in the workplace.

Raising the technology floor is not pie-in-the-sky thinking. The business and technology communities will be excited to make it happen for most of us. But easy access needs to be practical and real. We must let everybody know about available technology that has value to them in their lives. We also need to systematically reduce or remove barriers to that access. Industry will do much of this for the majority of us anyway through its relentless drive to lower prices and improve performance.

When the natural forces of business and technology do not address the needs of everybody, however, we need to take action as a society to ensure that the disadvantaged segments of our community do not fall further and further behind -- or even off of the technology network. We need to build a technology floor: A common, strong foundation that gives everybody the opportunity to use the power of the emerging information and communication technologies to pursue their aspirations and dreams.

Imagine you're starting to lose your vision. It will happen to many of us as we grow older. Suddenly, that PC or cell phone stops being a useful tool because of your inability to see clearly. Did you know that today, a blind person who buys a \$300 personal computer has to then purchase a \$1,000 specialized piece of software to make the PC talk for them? Think about it. Blind people need to spend three or four times as much to get a PC that works for them -- and additional money each year for updates to be able to access new applications and Web content. The situation is similar for cell phones.

To raise the technology floor for all Californians, we need to deliver four key pieces of the digital puzzle. Together, they will complete our vision of equal access to opportunity in society.

First, we need cell phones and PCs that are cheap and powerful. We don't have to do anything here -- the industry will simply deliver. If today's cell phones cost \$30 to make, it won't be long before they're \$20 and then \$10. If that generation of phones isn't powerful enough for our needs, just wait another year. The same dynamic is working on PC prices.

Second, we need access to broadband connectivity to the Internet. This is being built out globally, so we can also take advantage of it for people with disabilities if we provide affordable access. California is lagging the world in this area. Bangladesh has a plan to deploy wireless broadband across the country within two years. If we're not careful, we'll be lagging behind Bangladesh, as well as South Korea and Canada, in broadband penetration. It would be great if California committed itself to reaching parity with these countries!

Third, accessibility and usability are the next critical components. People should be able to find smart phones or PCs they are able to use without spending lots of money and time trying to figure them out. This is where technology developers are really failing users, especially people with disabilities. We can do better than this. We can commit to making \$300 PCs and free cell phones work for everybody, including people with disabilities. It isn't hard technologically. We just have to decide to build these devices. Cell phones and networked PCs can easily be designed to be more universally accessible.

Fourth, people need and want relevant content and applications. Like everybody else, disadvantaged people in California need and are interested in access to e-mail, text and instant messaging, sports news, general news, social content Web sites, video/TV, shopping, eBay, games and the list goes on.

Much great content on the Web is already freely available because of advertising-supported models. For people with disabilities, we can do exciting things to transform content from inaccessible to accessible mediums. We can shift content from visual formats to audio formats for people who are blind or who have a learning disability. For the deaf, we can move information from audio to visual formats. With broadband and network based technologies, we can provide on-demand assistive technologies when and where people need them. And we can provide these tools to people of all social and economic levels in any location where there is a computer or a cell phone connected to the Internet, at costs that match mainstream users' costs.

We strongly believe we can deliver universal design -- where the tools and the content work in simple fashion -- and that this will help many people beyond those who are disabled. This includes people who aren't literate, low-income seniors, people with reduced vision and people who don't read the majority language. The idea of universal design is to make products simply usable to the broadest possible audience. The best-known example is the curb cut: Originally intended for people using wheelchairs but used effectively by almost everybody else as well.

We have to market these ideas and free tools, and content as well. If people don't know about them, the ideas and tools don't really matter. Many good ideas fail because nobody worried about how the intended beneficiaries would find out about them.

Let's build that strong floor of equally available technology and let everybody in California, and the world, know they can step up and gain equal access to the world of information, education and commerce tools that the new information technologies are providing for everyone else.

About the writers:

Jim Fruchterman is CEO and founder of Benetech, a Silicon Valley nonprofit technology company. Gregg C. Vanderheiden is a professor of industrial and biomedical engineering, and director of Trace R&D Center at the University of Wisconsin, Madison.