Universal Design Offers Options—and Access

For many, this solution provides more than just convenience

Speech recognition technology is being used to replace more and more functions, seemingly daily. We use speech recognition to replace our hands when we are typing. We use it to replace our eyes while we are driving. We even use it to replace ID cards that allow us access to restricted areas, whether those areas are on a laptop computer, an ICU in a hospital, or a nuclear facility.

With Apple's introduction of Siri, it seems the whole world jumped on a collective bandwagon, wanting all speech all the time. Ironically, though, with the heightened focus on speech technologies, in many ways, people today are communicating less often by speaking and more often in silence, by methods such as texting.

With this juxtaposition of speech and nonspeech options, we seem to be in the midst of a social experiment. What is the right mix? When should we include speech as an option? When, if ever, should we require it? Under what circumstances should we forgo speech? How do these answers change as we ask the questions to people throughout the vast social spectrum?

There is no one technology that is right for every person at every time in every circumstance. This is where Universal Design comes in. A concept whereby products and places are designed to be usable by the greatest number of people, Universal Design incorporates redundancy; products and places must offer more than one way to use or control them. If there's a touch screen, there should also be discernible keys. If you can enter information by voice, you should also be able to enter information by touch screen and keyboard/keypad and even with a stylus.

Convenient Versus Cool

Devices today are getting smaller. That's great if you want to put your computer in your purse, but not if you lack fine motor skills. Sometimes it seems as if manufacturers make products to be as cool as possible, without considering the social effect. Putting accessibility aside for a moment, some tasks can be more efficiently completed by *not* using one's voice.

Take calling your pharmacy for a refill. What information does the pharmacy need? Your name; an identifying feature, perhaps the last four digits of your phone number; and the number of the prescription you want to refill. That's pretty much it. Here, dual-tone multifrequency is faster and more accurate than speech, unless you cannot trigger the buttons on your telephone keypad.

Steps Versus Ramps

In an attempt to make society more accessible for people who have disabilities, laws were put in place requiring that buildings provide a means for a person with a disability to make use of the structure. Fire and smoke alarms should have an audible siren and blinking lights to alert those who have vision impairment or hearing loss. If the entrance to the building is a set of stairs, the building owner must add a ramp.

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But not all ramps are created equal. One may have such a sharp incline it is better suited for skateboards than wheelchairs. Another traverses the side of the building multiple times, exponentially increasing the distance one must cover by foot, walker, crutches, or wheelchair.

Moving the accessibility conversation to our connected lives, manufacturers may offer more than one way for users to interface with products, but will there always be sufficient choices? Legacy features are already disappearing because they are considered passé, even though they are relied upon by people with disabilities. We have voice in, we have voice out, we can type on a virtual keyboard without lifting our fingers from the screen. We even have tactile feedback, by which items on the screen vibrate to confirm to the user that he has implemented the action he intended. But try finding a smartphone with a physical keypad. It's not that every product must have every option, but we have to be careful not to abandon features that will also abandon users. We also have to ensure that the most accessible products are not the most expensive ones.

Functionality should take priority over technology. Universal Design promotes choice for some. But it provides access for others.

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