When Multimodal Isn't Useable In Any Mode

by Robin Springer

As technology progresses, devices become smaller in size. Remember first generation "mobile" phones? They were mobile all right, but they were practically the size of a small child, weighing a few pounds, and barely meeting the airline's size requirements for carry-on luggage. But they served our purpose and we were grateful.

Now, the newest generation of mobile devices, including cell phones, PDAs and pagers, can fit easily in the palm of one's hand, and all indications lead to the continuation of this trend. The benefit of this to an able-bodied person – using the term "able-bodied" liberally – is evident. A person can be "able-bodied" but "middle-aged" – appreciative of the small size of the devices in theory, but in reality, realizing his appreciation of the tiny screen would have been greater in college, when his vision was better. Or the 60-something-year-old, who is not a "senior citizen" but notices her joints aren't quite as nimble as in years past, and who may not completely understand the appeal of this type of "less is more" mentality.

You get the point.

Good things come in small packages. Multimodal means more ways to use a good thing. Perhaps.

But how do we answer the question, "How will people with disabilities use these devices as the devices continue to get smaller?"

We are told that, because these devices are multimodal, people with disabilities have options with regard to the mode they use. For example, even if the device is too small for a person to use his fingers to dial the phone or schedule a meeting on a PDA calendar, there are other input options, thereby the term multimodal. On the surface this makes perfect sense. Acknowledging the shrinking size of these devices, if a person cannot use the stylus or touch-screen, he will some day be able to enter information by voice.

But, to the individual with multiple disabilities – for example, a person with cerebral palsy – the fatal flaw in this response is the fact that limited dexterity and affected speech may preclude significant segments of this population from using these devices, as they may not be able to dial a phone with tiny buttons or use a stylus on a PDA. Even using the PDA's touch screen may be questionable because the screen and icons are so small. Adding the element of natural light, which compromises display quality, further complicates the issue.

People without disabilities have options because they are able to use the various means of input. The 40ish yuppie can put on her trifocals to compensate for the small display size, but someone with multiple disabilities may not be able to adapt as easily. She may not have clear enough speech, or any speech, or speech technology may not be accurate enough to recognize her speech.

Perhaps some day soon, speech recognition will be precise enough, widely available and affordable, to allow someone with affected speech to have accurate recognition. But today, this is not the case.

In the mid 1990's, the focus of adaptive technology seemed to emphasize universal design, with products everyone (or more people) could use because they allowed access to a wider audience. Landline telephones that previously accentuated "slim line" design suddenly offered oversized models with huge buttons. While these phones provided new style for the trendsetters, the new feature it offered for someone with limited fine motor skills was usability. A phone of this type could allow a teenager with cerebral palsy to dial the phone and chat with friends without mom and dad knowing. Unfortunately, at this time the new generation multimodal wireless devices fail to offer this luxury.

It is crucial to recognize that this technology is evolving. Being at the forefront of creating the very tools that will be used for years to come allows us the opportunity and the obligation to ensure usability on as wide a scale as possible. While the technology is not perfect, it is being perfected. We can assist in its evolution by being aware and challenging the designers of technology to keep the disabled individual in mind while creating products. This will help ensure the disabled will be able to use these new generations of adaptive technology.

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