SUNspot – Customization of Wireless Devices and Use of Apps

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We created "SUNspot" to share some of the latest findings of our ongoing Survey of User Needs (SUN). This survey focuses on the use and usability of wireless technology by people with disabilities. We began the survey in 2001, and launched Version 3 in May 2010. Among 447 SUN respondents since then, 393 reported having a sensory, physical, and/or cognitive disability.

We share SUN data with manufacturers and carriers, as well as with policymakers, for the purpose of improving usability of wireless technology. SUN data are regularly used in guiding industry and government initiatives.

We invite the public to take the Survey of User Needs and share how wireless technology affects daily life, and how it could be improved. The survey is available on paper, by phone (800-582-6360), or online at www.wirelessrerc.org/survey. The data reported here represent preliminary results.* Data collection is ongoing.

This SUNspot focuses on:

- customization of wireless devices by people with disabilities to make them easier to use
- downloading and installing smartphone apps, and their importance to respondents

As reported in Table 1, the SUN asks respondents if they have added any hardware, software, or other made any other modifications to their wireless devices to make them easier to use. Nearly 2/3 (65%) indicated that they had modified their devices, the most common type of modification being adding accessories like rubber skins, headsets, etc (24% of all respondents with disabilities).

Table 1: Have you added anything to your device to make it easier to use?

Type of modification/customization	Percentage all respondents with disabilities	Percentage all respondents with disability <=50 years old	Percentage all respondents with disability <=40 years old
Accessories (rubber skin, headset, Bluetooth device, screen overlay, lanyard, stylus, etc.)	24%	23%	23%
Assistive Devices (headswitch, EMG switch, AAC device, screenreader, screen magnifier, TTY, hearing aid, cochelar implant, etc.)	12%	10%	6%
Software (3rd party TTS, app store downloads, etc.)	13%	17%	18%
Improvised solutions (handstrap, velcro, wheelchair mount, etc.)	5%	6%	3%
Any modification	65%	62%	62%

The next most common modification or customization was software applications, cited by 13% of all respondents with disabilities.

The tendency to download and install software applications seems to have an age dimension, with respondents 40 years of age or younger being much more likely than all respondents with a disability to customize their devices in this way. This relationship between age and interest in apps is also evident in responses to two additional questions, reported in Table 2.

Question: Which of the following functions to you use on your wireless device? (select all that apply)

- Overall, 10% of respondents with disabilities answered that they have downloaded applications to their device (15% of those 40 and younger, and 13% of those 50 and younger).

Question: What are the 5 most important wireless functions for you? (select only 5)

- Overall, 3% of respondents with disabilities answered that "downloading applications" is among the five most important wireless functions to them (4% of those 40 and younger, and 3% of those 50 and younger).

Table 2: Use and Importance of Wireless Functions: Downloading and Installing Apps

SUN questions	**Percentage of respondents with disabilities**	**Percentage of respondents with disabilities <=50 years old**	**Percentage of respondents with disabilities <=40 years old**
Which of the following functions do you use on your wireless device? – *Downloading applications, "apps"*	10%	13%	15%
What are the 5 most important wireless functions for you? – *Downloading applications, "apps"*	3%	3%	4%

In addition to age, type of disability seems to be related to use or interest in apps. Slightly higher percentages of respondents with sensory impairment (either visual or hearing) reported having modified their devices with apps, having downloaded apps, and attaching higher importance to the ability to download and install apps.

*Data source: Survey of User Needs (SUN), Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC). These data are based on a non-randomized population sample. The survey is promoted as broadly as possible through convenience sampling techniques, with special effort toward reaching under-represented groups.

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