

Smartphone Use and Activities by People with Disabilities: User Survey 2016

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32nd CSUN Assistive Technology Conference
San Diego, California – February 27-March 4, 2017



The Rehabilitation Engineering Research Center for Wireless Technologies is funded by the National Institute on Disability, Independent Living and Rehabilitation Research of the U.S. Department of Health and Human Services, grant # 90RE5007-01-00. The opinions contained in this document are those of the grantee and do not necessarily reflect those of the U.S. Department of Health and Human Services.

Agenda

1. Overview – Wireless RERC
2. Overview – Survey of User Needs
3. SUN 2012-2013 & 2015-2016 – Samples & demographics
4. Data analysis
 - People with disabilities and general population
 - Smartphone ownership
 - Smartphone activities
 - People with disabilities – Smartphone activities
 - by INCOME
 - by AGE
 - by DISABILITY

Overview of the Wireless RERC

- **Founded in 2001**

- by grant from U.S. Dept of Education, National Institute on Disability and Rehabilitation Research (NIDRR)
- Currently in Year 1 of our 4th 5-year grant cycle, which began in Oct 2016

- **Partners**

- Shepherd Center – consumer research, and industry outreach and training
- Georgia Tech, Center for Advanced Communication Policy (CACCP) – policy and consumer research
- Georgia Tech, Institute for People and Technology (IPaT) - technology development

Overview of the Wireless RERC

- Mission – to promote:
 - Equitable access to wireless technology
 - Universal Design in mobile wireless technology
- Structure – projects in 3 categories:
 - Research
 - Development
 - Training & Outreach



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Overview of the Survey of User Needs

Survey of User Needs (SUN)

- Background
 - Launched in 2002
 - Date presented here from the 5th version, which launched in 2015
- Results are shared with industry, developers, designers, regulators, advocates and consumers with disabilities

Survey of User Needs – 2015-2016

Welcome! Survey of User Needs for Wireless Technologies

The purpose of this survey is to learn how people of all ages and abilities use wireless technology. The survey mainly focuses on cellphones, but also includes questions about other types of device like tablet computers such as Apple's iPad, Amazon's Kindle Fire and other similar devices.

The information collected will help designers and engineers make new wireless devices and services that meet your needs. Since 2001 more than 5000 people have completed this survey.

Please try your best to complete all parts of this survey. Your answers are important to us, even if you don't use wireless technology. This survey can be completed by an assistant or caregiver for you if you are unable to complete it directly.

Your personal information will not be sold or used in any way other than for research related to this survey. Your personal data will be kept strictly confidential.

ABOUT US
This survey is being conducted by the Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC), which is funded by a 5-year grant from the U.S. Department of Education's National Institute on Disability and Rehabilitation Research (grant number H133E110002). For more information about the Wireless RERC, please visit us on the internet at: www.wirelessrerc.org.

If you have questions or need help with this survey, please contact:
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If you have concerns with this survey, please contact:
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1. If someone is helping you complete this survey, what is their relationship to you? (Check all that apply)

No one is helping me. I am completing it for myself.

Parent

Spouse or partner

Other family member

Friend

6. W

Primary caregiver (paid)

Primary caregiver (unpaid)

Part 1. About you

\$35,000-\$49,999

\$50,000-\$74,999

\$75,000 or more

Overview of the Survey of User Needs

Purpose

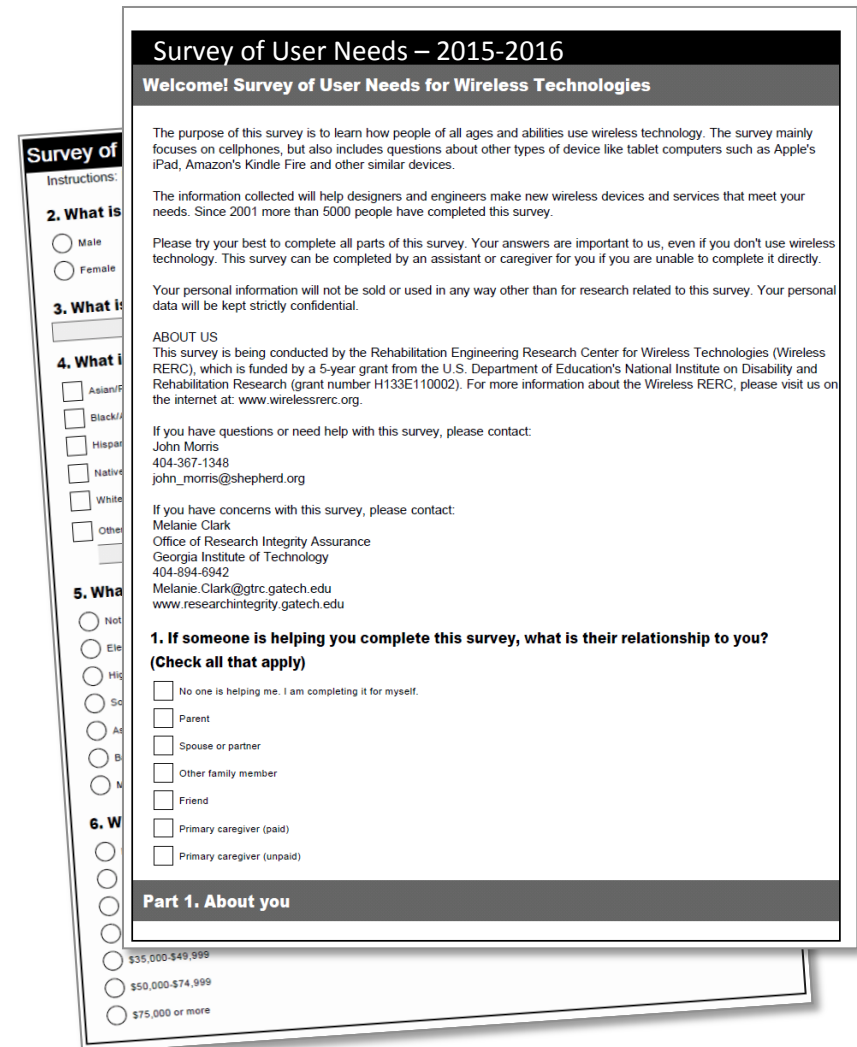
Track how people with all types of disabilities use wireless technology.

Objective

Inform designers, developers, industry, regulators, advocates, people with disabilities.

Mission

Ensure that wireless technology is accessible to people with disabilities



Overview of the Survey of User Needs

Timeline:

SUN 1 – launched in 2002, after RERC founded

SUN 2 – Launched in 2006, after RERC refunded

SUN 3 – Launched in 2010, to keep abreast of mobile technology development

SUN 4 – Launched in 2012 after Wireless RERC was refunded in 2011

SUN 5 – Launched in 2015, as second of 2 rounds under the 2011-2016 Wireless RERC grant

SUN 6 – *Currently updating* questionnaire for May 2017 launch

Overview of the Survey of User Needs

SUN Timeline	Total Respondents
SUN 1 – Launched in 2002 after RERC founded	917
SUN 2 – Launched in 2006 after RERC refunded, updated	1209
SUN 3 – Launched in 2010 to keep abreast of mobile technology development	1252
SUN 4 – Launched in 2012 after RERC funded to keep up with technology development	1381
SUN 5 – Launched in 2015 as second survey in current RERC grant	1168

Overview of the Survey of User Needs

Structure of current SUN

Part 1	About you – Demographics (age, race, gender, etc)
Part 2	About your abilities
Part 3	About your wireless devices
Part 4	About your wireless activities
Part 5	About your wireless service plans

Survey of User Needs - Samples

Sample size and demographics		
	2012-2013	2015-2016
Total respondents	1381	1168
Respondents with disability	1036	970
Female (%)	58%	57%
Age		
Range	18-89	18-99
Mean	50	53
Median	52	54

Survey of User Needs - Samples

WHAT IS YOUR RACIAL/ETHNIC BACKGROUND? (%)		
	2012-2013	2015-2016
Asian/Pacific Islander	3.5	3.1
Black/African American	10.8	7.1
Hispanic/Latino	4.2	4.5
Native American	1.7	2.4
White/Caucasian	81.3	83.4
Other	2.2	2.5
TOTAL	103.7	103.0

Survey of User Needs - Samples

DO YOU HAVE ANY OF THE FOLLOWING DIFFICULTIES? (%)		
	2012-2013	2015-2016
Difficulty walking or climbing stairs	39%	42%
Difficulty hearing	36%	47%
Difficulty seeing	28%	23%
Difficulty using hands or fingers	25%	25%
Difficulty concentrating, remembering	25%	21%
Frequent worry, nervousness, or anxiety	23%	23%
Difficulty using arms	17%	20%
Difficulty speaking so people can understand	15%	17%

Survey of User Needs - Samples

Visual impairment and hearing loss*		
	2012-2013	2015-2016
Blind	8%	6%
Low vision	16%	13%
Deaf	12%	12%
Hard of hearing	24%	31%

Survey of User Needs - Samples

WHAT IS YOUR ANNUAL GROSS HOUSEHOLD INCOME?		
	2012-2013	2015-2016
Less than \$10,000	12.5	9.9
\$10,000-\$14,999	9.0	9.4
\$15,000-\$24,999	11.7	12.8
\$25,000-\$34,999	13.3	11.9
\$35,000-\$49,999	14.2	12.3
\$50,000-\$74,999	17.1	18.9
\$75,000 or more	22.2	25.1

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Device Ownership – SUN and Pew Research

Wireless Use and Type of Device	SUN 2012-2 013	SUN 2015-2 016	Pew 2013	Pew 2015
Basic Phone – e.g., Motorola Razr, Pantech Breeze, Nokia 6350	27%	13%	35%	24%
Smartphone – e.g., iPhone, Android phone, Windows phone	57%	72%	56%	68%
Tablet – e.g., iPad, Kindle Fire, Galaxy Tab, Microsoft Surface	35%	50%	34%	45%

*Cell phone only; <http://pewinternet.org/Commentary/2012/February/Pew-Internet-Mobile.aspx>

Wireless Use – SUN and Pew Research

Table 3. Wireless activities for **cellphone** users with disabilities (SUN 2012-2013) and the general population (Pew Research Center, April-May 2013)

	SUN 2012-2013	Pew 2013
Texting	71%	81%
Internet	60%	60%
Email	61%	52%
Mobile apps	48%	50%
Social media	48%	N/A
Maps/GPS	45%	49%
Voice calling	64%	N/A
Video calling	25%	21%

Wireless Use – SUN and Pew Research

Table 3. Wireless activities for **smartphone** users with disabilities (SUN 2015-2016) and in the general population (Pew Research Center, 2015).

	SUN 2015-2016	Pew 2015
Texting	88%	97%
Internet	81%	89%
Email	85%	88%
Mobile apps	70%	N/A
Social media	66%	75%
Maps/GPS	74%	41%
Voice calling	67%	N/A
Video calling	39%	N/A

Wireless Use – SUN and Pew Research

Wireless Activities for **cellphone users** (2012- 2013) and **smartphone users** (2015-2016)

	SUN 2012-2013	Pew 2013	SUN 2015-2016	Pew 2015
Texting	71%	81%	88%	97%
Internet	60%	60%	81%	89%
Email	61%	52%	85%	88%
Mobile apps	48%	50%	70%	N/A
Social media	48%	N/A	66%	75%
Maps/GPS	45%	49%	74%	41%
Voice calling	64%	N/A	67%	N/A
Video calling	25%	21%	39%	N/A

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Wireless Use – SUN Respondents with Disability

Which features & functions do you use on your smartphone?
SUN 2012-2013, by gross annual household INCOME

	Less than \$35,000	\$35,000 - \$49,999	\$50,000 - \$74,999	\$75,000 or more
Texting	90%	98%	92%	89%
Internet	85%	88%	84%	88%
Email	86%	86%	86%	91%
Mobile apps	70%	65%	67%	73%
Social media	68%	74%	67%	73%
Maps/GPS	71%	58%	64%	67%
Voice calling	62%	63%	71%	63%
Video calling	34%	26%	36%	33%

Wireless Use – All Respondents with Disability

Which features & functions do you use on your smartphone?
SUN 2015-2016, by gross annual household INCOME

	Less than \$35,000	\$35,000 - \$49,999	\$50,000 - \$74,999	\$75,000 or more
Texting	86%	88%	91%	90%
Internet	78%	83%	85%	86%
Email	81%	85%	88%	90%
Mobile apps	63%	68%	72%	79%
Social media	66%	78%	76%	83%
Maps/GPS	66%	71%	66%	69%
Voice calling	70%	70%	59%	70%
Video calling	36%	41%	39%	45%

Wireless Use – All Respondents with Disability

Which features & functions do you use on your smartphone?
SUN 2012-2013, by AGE

	18-29	30-49	50-64	65+
Texting	95%	91%	93%	83%
Internet	91%	89%	87%	66%
Email	90%	88%	86%	80%
Mobile apps	81%	73%	69%	46%
Social media	74%	72%	68%	65%
Maps/GPS	88%	77%	60%	26%
Voice calling	71%	66%	65%	48%
Video calling	52%	36%	26%	22%

Wireless Use – All Respondents with Disability

Which features & functions do you use on your smartphone?
SUN 2015-2016, by AGE

	18-29	30-49	50-64	65+
Texting	88%	91%	89%	84%
Internet	86%	88%	82%	68%
Email	86%	90%	85%	80%
Mobile apps	75%	78%	67%	63%
Social media	83%	79%	63%	48%
Maps/GPS	72%	81%	75%	62%
Voice calling	72%	74%	63%	65%
Video calling	51%	51%	34%	24%

Wireless Use – All Respondents with Disability

Which features & functions do you use on your smartphone?
SUN 2012-2013, by DISABILITY or IMPAIRMENT

	Thinking	Anxiety	Seeing	Hearing	Speaking	Using arms	Using hands, fingers	Walking, climbing stairs
Texting	87%	86%	89%	93%	87%	87%	89%	88%
Internet	83%	83%	84%	86%	83%	85%	86%	83%
Email	85%	81%	81%	89%	90%	84%	87%	86%
Mobile apps	64%	69%	73%	67%	65%	67%	71%	68%
Social media	71%	67%	60%	61%	69%	71%	68%	67%
Maps/GPS	64%	67%	67%	73%	70%	64%	65%	69%
Voice calling	71%	67%	77%	48%	44%	75%	73%	74%
Video calling	28%	27%	30%	35%	44%	31%	29%	26%

Wireless Use – All Respondents with Disability

Which features & functions do you use on your smartphone?
SUN 2015-2016, by DISABILITY or IMPAIRMENT

	Thinking	Anxiety	Seeing	Hearing	Speaking	Using arms	Using hands, fingers	Walking, climbing stairs
Texting	87%	91%	88%	90%	88%	84%	87%	86%
Internet	85%	85%	79%	82%	80%	77%	80%	80%
Email	85%	88%	81%	88%	86%	81%	85%	83%
Mobile apps	71%	76%	74%	69%	68%	70%	69%	70%
Social media	71%	73%	55%	64%	71%	71%	71%	66%
Maps/GPS	74%	78%	75%	75%	74%	64%	67%	71%
Voice calling	77%	76%	77%	58%	50%	72%	75%	73%
Video calling	42%	42%	39%	33%	53%	37%	41%	36%

Thank you!

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