

Discover the Accessibility Features of Smartphones!

A Wireless Education Workshop
for Consumers with
Mobility and Dexterity
Impairments

Who We Are



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CATO, AT&T

Wireless Rehabilitation Engineering Research Center

Our mission is to research, evaluate and develop innovative wireless technologies and products that **meet the needs, enhance independence, and improve the quality of life and community participation** of people with disabilities.



AT&T's Corporate Accessibility Technology Office

The **Corporate Accessibility Technology Office (CATO)** leads AT&T's efforts to address the needs of persons with disabilities in the design and development of products and services across the enterprise. CATO partners with each business unit to advance AT&T's efforts to comply with all accessibility laws for all products, services, applications and networks affecting the business. Building on AT&T's legacy, CATO promotes technology that is accessible by all and fosters innovations which improve the lives of our customers.

Why are we here?

- Collaboration between Wireless RERC and AT&T Foundation
- # 1 Goal - Help you use your devices more effectively!
- We want to help you:
 1. Understand which popular smartphone platforms and Operating Systems (OS) might best fit your needs
 2. Leverage built-in accessibility features in those OS's
 3. Experience the latest accessible consumer-based wireless technologies
 4. Alleviate issues with your own devices, or learn something new

General Hardware Overview

Four device categories:

1. Smartphone
2. Phablet
3. Tablet
4. Quick Messaging Device (QMD)

Apple's iOS 7 General Overview

- Controlled ecosystem of hardware, software and “cloud” services
 - iPhone, iPad, iPod
 - App Store, iTunes, iBooks, iPhoto, iCloud
- Transferable skills between devices
- Greatest number of apps

Google's Android 4.4 (Kit Kat)

General OS Overview

- Largest market share
- Open source
- Many “flavors” of OS affects uniform accessibility performance across OS versions
- Tight integration with Google services
 - Gmail, Google+, Hangouts, Drive
- Often less expensive than iOS devices
- “Widgets” provide custom functionality and shortcuts to apps
- Manufacturers overlay their own “skin”

Accessibility Features

Virtual Assistant

Apple iOS

Virtual Assistant

Apple - Siri

- Virtual Intelligent Assistant and Voice Control
- Integrated with AssistiveTouch so you don't have to physically tap Home button
- Can be used with Bluetooth headsets
- Voice recognition can be an issue for users with speech impairments, especially for users that may be on ventilators

Enable Siri

Steps to enable Siri:

1. Settings
2. Siri

Apple – Using Siri with AssistiveTouch

Steps to access Siri with AssistiveTouch:

1. Select AssistiveTouch menu button
2. Select Siri

Google's Android 4.4 (KitKat)

Virtual Assistant

Access Google Now

- Intelligent Virtual Assistant
- Accessed by:
 - Google Search Bar
 - Swiping Up on home screen inside any app

Access Ok Google

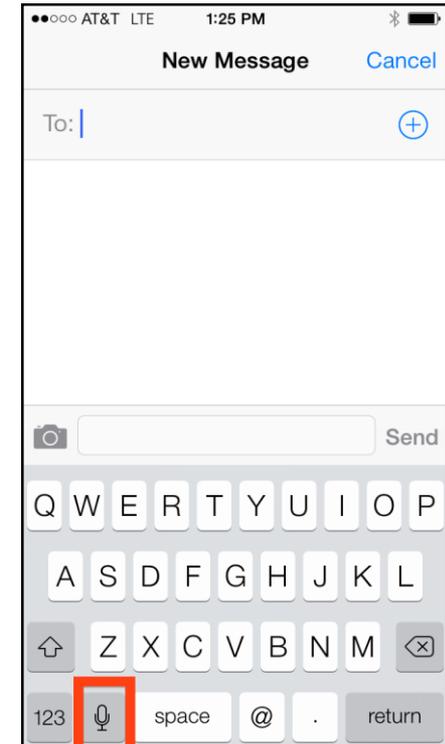
- Hands-free interface
- “Always On” Active Listening Voice Command for Google Now
 - Initiated through home screen or within Google Now
 - Say: “OK Google”
- Voice recognition can be an issue for users with speech impairments

Accessibility Features

Dictation

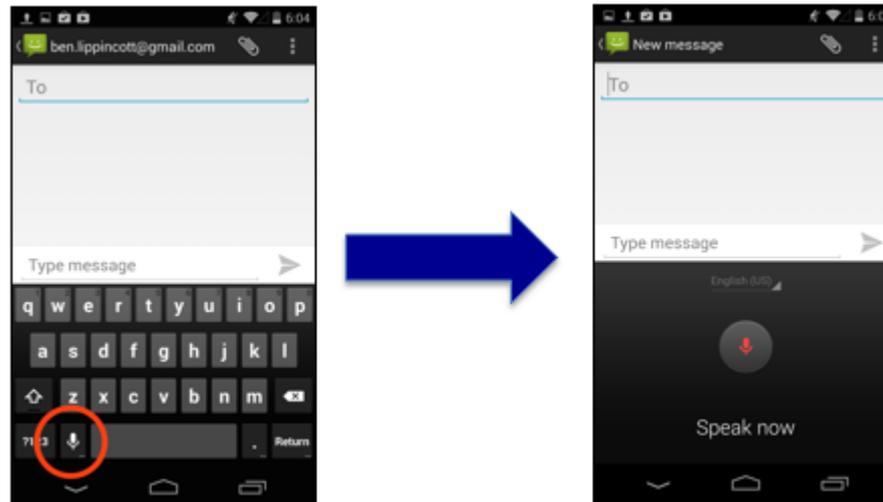
Apple - Dictation

- Microphone icon on keyboard
- Allows you to speak:
 - Emails
 - SMS/Text messages
 - URLs for web browsing
- Only available in some applications



Android - Dictation

- Microphone icon on virtual keyboard
- Allows you to speak emails, SMS/Text messages, and URLs for web browsing
- Only available in some applications



iOS 7 Accessibility Feature

Adaptive Interface

Assistive Touch

Apple - Assistive Touch

- Adapts touchscreen to your unique needs
 - Customization of multi-touch gestures to just one tap of finger, stylus, or mouthstick
 - Accessible method for operating side keys, power, and home buttons

Enable Apple's Assistive Touch

Steps to access AssistiveTouch:

1. Settings
2. General
3. Accessibility
4. Turn on AssistiveTouch

iOS 7 Accessibility Feature

Adaptive Interface

Home-click Speed

Apple - Home-click Speed

- Adjust the speed required to activate Double and Triple-click on “Home” button
 - Double-click: List of recently used apps
 - Triple-click: Quick access to Accessibility features
- Beneficial if you have difficulty pressing buttons quickly

Modify Home-click Speed

Steps to access Home-click Speed:

1. Settings
2. General
3. Accessibility
4. Home-click Speed – select from Default, Slow, and Slowest

iOS 7 Accessibility Feature

Keyboard Shortcuts

Apple - Keyboard Shortcuts

- Create custom shortcuts for words you type frequently
- Beneficial if typing lots of letters tires your fingers or arms
- Examples:
 - “appt” for “appointment”
 - “cyl” for “Call you later.”

Enable Apple Keyboard Shortcuts

Steps to enable Apple Keyboard Shortcuts:

1. Settings
2. General
3. Keyboard – options include Auto-Capitalization, Auto-Correction, Check Spelling, Enable Caps Lock, and Add New Shortcut...

iOS 7 Accessibility Feature

Incoming Calls

Apple - Incoming Calls

- Changes how calls can be answered
 - Default
 - Headset
 - Speaker

Access Settings for Apple Incoming Calls

Steps to access Incoming Calls:

1. Settings
2. General
3. Accessibility
4. Incoming Calls

iOS 7 Accessibility Feature

Switch Control

Apple - Switch Control

- Ability to navigate through onscreen menus and perform actions through Bluetooth-enabled switch hardware or other adaptive accessory.
- AbleNet User Guide to iOS 7 Switch Control
 - [AbleNet User Guide to iOS Switch Control \(www.ablenetinc.com/Portals/0/KnowledgeBase/Manuals/iOS7-UserGuide.pdf\)](http://www.ablenetinc.com/Portals/0/KnowledgeBase/Manuals/iOS7-UserGuide.pdf)

Access Apple Switch Control

Steps to access Switch Control:

1. Settings
2. General
3. Accessibility
4. Switch Control

Android 4.4 (KitKat) Accessibility Feature

Near Field Communications (NFC)

Android - Near Field Communications (NFC)

- Tap two NFC-enabled devices to share:
 - Photos, Websites, Files, and Contacts
- Environmental or other access control
 - Tapping to pay at convenience stores
 - Use technology for opening doors without keys
 - Thermostat temperature adjustments

Access Android Near Field Communications (NFC)

Steps to enable Vibrate on Ring:

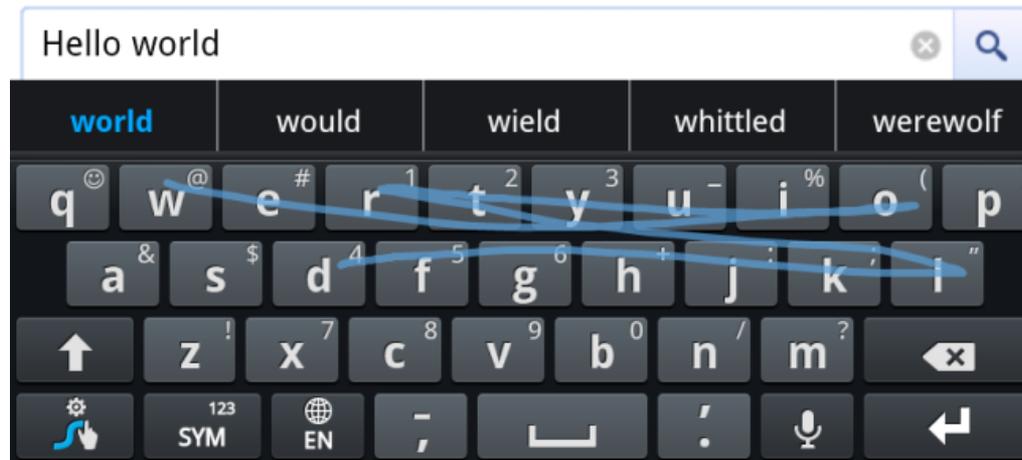
1. Settings
2. More...
3. NFC

Android 4.4 (KitKat) Accessibility Feature

SWYPE

SWYPE

- Virtual keyboard for touchscreen smartphones and tablets
 - Slide a finger or stylus from the first letter of a word to its last letter, lifting only between words, to enter text
- SWYPE supports “Talkback” and “Explore by Touch”
- Sync Voice and Text Dictionary



General Accessibility Feature

Bluetooth Headsets

Bluetooth Headsets

- Bluetooth headsets MAY offer an accessible “handsfree” method for using Siri and answering/initiating calls.
 - Compatible between iOS, Android, and WP8
 - Many Bluetooth versions on both the headset and phones
 - Various combinations can give you nearly full control all the way to very limited control

Specially Adapted Bluetooth Headsets

- NoButtonsHeadset:
 - Magnetic activated headset for people who use a wheelchair
- Switch adapted headset:
 - EasyBlue:
 - Switch-adapted Bluetooth headset
 - Zoomate:
 - Switch-adapted Bluetooth speaker phone
 - Officemate:
 - Switch-adapted multipoint Bluetooth headset
- Answer with voice
 - BlueAnt's Commute:
 - A voice activated handsfree speakerphone

Accessibility Resources

Online Resources for Accessible Apps

- Each OS's app store
 - [Apple's App Store \(www.itunes.apple.com/us/genre/mobile-software-applications/id36?mt=8\)](http://www.itunes.apple.com/us/genre/mobile-software-applications/id36?mt=8)
 - [Google Play \(www.play.google.com/store\)](http://www.play.google.com/store)
 - [Windows Phone Store \(www.windowsphone.com/en-us/store/featured-apps\)](http://www.windowsphone.com/en-us/store/featured-apps)
- FCC Accessibility Clearing House
 - [FCC Accessibility Clearing House \(www.ach.fcc.gov\)](http://www.ach.fcc.gov)
- Global Accessibility Reporting Initiative (GARI)
 - [GARI \(www.gari.info\)](http://www.gari.info)

Online Resources for Wireless Accessibility Information/Products

- AT&T National Center for Customer with Disabilities (NCCD)
 - Specialized customer service representatives can assist with questions about alternate billing format such as Braille or large print, the [Directory Assistance Exemption Program](#), and questions about AT&T equipment, accessories, features, and services.
 - Voice calls: 1-866-241-6568; TTY calls: 1-866-241-6567
- AT&T Sales and Service Center for Disability and Aging- Wireline Services
 - Specialized customer service representatives can assist with questions about alternate billing format such as Braille or large print for wireline services, the [Directory Assistance Exemption Program](#), and questions about AT&T equipment, accessories, features, and services.
 - Voice calls: 1-800-772-3140; TTY calls: 1-800-651-5111
- Wireless RERC's list of online accessibility resources
 - [Online accessibility resources \(wirelessrerc.gatech.edu/node/365\)](http://wirelessrerc.gatech.edu/node/365)
 - Provides direct links to manufacturers & service providers accessibility sites
- Global Accessibility Reporting Initiative (GARI)
 - [GARI \(www.gari.info\)](http://www.gari.info)
 - Ability to compare device accessibility features
 - Filter by dexterity, seeing, hearing and cognition

Take the “Exit” Survey

Please tell us what you think about this event!
We’re listening to your feedback!

[Survey Monkey](https://www.surveymonkey.com/s/Accessibility-Workshop)
[\(\[www.surveymonkey.com/s/Accessibility-Workshop\]\(https://www.surveymonkey.com/s/Accessibility-Workshop\)\)](https://www.surveymonkey.com/s/Accessibility-Workshop)

Final Questions?

Contact Us!

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