

# Discover the Accessibility Features of Smartphones!

A Wireless Education Workshop  
For Consumers with Cognitive  
Impairments

# Who We Are



**Ben Lippincott**

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Compliance and Outreach

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.



Rehabilitation  
Engineering  
Research  
Center



# 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

# Agenda

- Presentation (60 minutes):
  - General overview of devices
  - Review built-in smartphone accessibility features:
    - » Apple's iOS, Google's Android, Windows Phone 8
  - Review accessibility resources
- Break-out sessions (30 minutes)
  - Device showcase & small-group coaching sessions
  - Closing questions

# 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

## Learning New Apps

# Apple iOS

## Guided Access

# Guided Access

- Restriction to a single app
- Let's user learn how to use app before more apps can be introduce
- Limits cognitive load

# Enable Guided Access

Steps to enable Guided Access:

1. Settings
2. General
3. Accessibility
4. Guided Access

# Accessibility Features

## Virtual Assistants

# 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



# Apple – Using Siri with AssistiveTouch

Steps to access Siri with AssistiveTouch:

1. Select AssistiveTouch menu button
2. Select Siri

# Google Android

# Virtual Assistant

# Google Now and Ok Google

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

# Accessibility Features

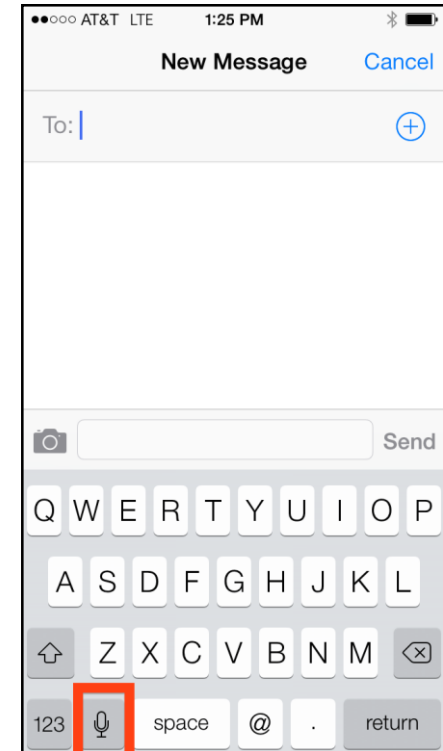
## Dictation

# Apple iOS

## Dictation

# Apple - Dictation

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

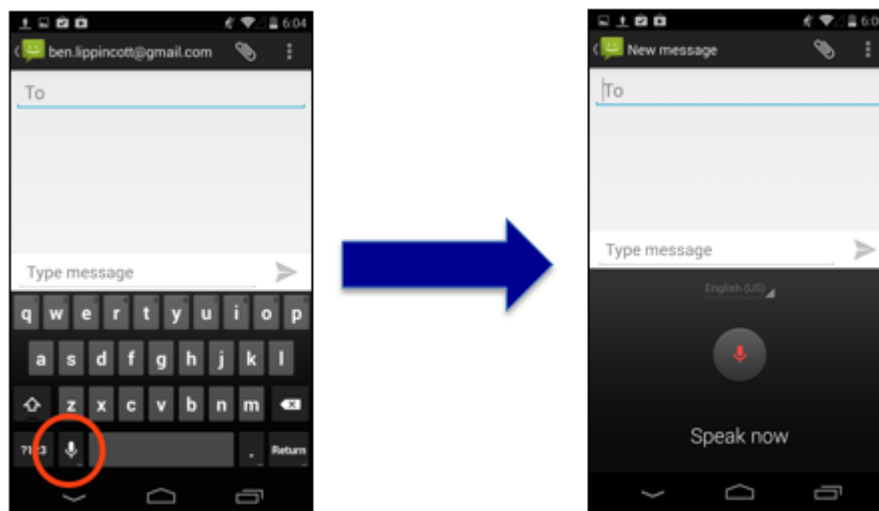


# Google Android

## Dictation

# 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





# Accessibility Features

## Video Calling and Text Messaging

# Apple iOS

## Video Calling

# Apple FaceTime

- Video call app
- Allows users to be visually prompted to be reminded of, or to complete, tasks

# Access Apple FaceTime

Steps to access FaceTime:

1. FaceTime App
2. Select Contact
3. Select FaceTime menu item

# Apple iOS

## Text Messaging

# Apple - iMessages

- Texting app
- Unlimited free texts between iOS and Mac users
  - Photos, videos, locations
  - Synchs between all iOS devices you may own

# Access Apple iMessages

Steps to send text message:

1. Messages App
2. Access Contact List (top right corner)
3. Select from Contact List
4. Select “Send” after message typed

# Google Android

## Video Calling and Text Messaging



# Android - Hangouts

- Allows one-on-one or group conversations
  - Supports text and video calling
  - Available on computers, Android, and iOS devices
  - Integrated with your Google account
  - Share photos and locations
- Allows users to be visually prompted to be reminded of, or to complete, tasks

# Access Video Calling using Hangouts

Steps to access Video Calling using Hangouts:

1. Select Hangouts app
2. Access Contact List (top right corner)
3. Select from Contact List
4. Select Camera icon (top right corner)

# Accessibility Features

## Widgets

# Android Widgets

- Screen customization
- Provide "at-a-glance" view of an app's most important data
- Can be moved, sized and information tailored to users needs

# Access Android Widgets

Steps to access Widget:

1. Select Apps icon on homescreen
2. Select Widget menu (top center)
3. Select preferred Widget

# Accessibility Features

## List Makers and Reminders

# Android Google Keep

- Note-taking app
  - Text & Voice notes
  - Integrate photos into note
  - Color code
- Reminded through Google Now

# Access Google Keep

Steps to access Google Keep:

1. Select Apps icon
2. Select Keep app
3. Select from a choice of new note, list, recording, or photo



# Accessibility Features

## Near Field Communications (NFC)

# Google's 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 NFC

Steps to enable NFC:

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

# 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)

# Additional Online Resources for Accessible Apps

- CTIA's Access Wireless
  - [CTIA's Access Wireless \(www.accesswireless.org\)](http://www.accesswireless.org)
- Tools for Life AppFinder
  - [Tools for Life AppFinder \(www.gatfl.org/favorite-search.php\)](http://www.gatfl.org/favorite-search.php)
- BridgingApps
  - [Bridging Apps \(www.bridgingapps.org\)](http://www.bridgingapps.org)

# 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

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# 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)

## Final Questions?

# Contact Us!

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