Discover the Accessibility Features of Smartphones!

A Wireless Education Seminar
for Consumers who are
Deaf and Hard-of-Hearing

wireless **RERC** Rehabilitation Engineering Research Center

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Who We Are

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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.

Shepherd Center

Georgia Institute of Technology

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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"

An Introduction to Hearing Aid Compatibility (HAC) Ratings

Hearing Aid Compatibility (HAC) Ratings

- Each phone has an "M" and/or "T" rating
    - "M" = Performance while on microphone mode
    - "T" = Performance while coupled to hearing aid's Telecoil (T-coil)
        - Newer hearing aids and cochlear implants have T-coil switch
        - Eliminates some of the background noise
- Higher the rating = Higher the performance
- Try Before You Buy!

Made for iPhone Hearing Aids

- Top hearing aids manufacturers have designed hearing aids specifically for iPhone

- These hearing aids deliver:
  - power-efficiency
  - high-quality digital audio experience,
  - manage hearing aid from iPhone

- Models:
  - GN ReSound (model: Resound LiNX)
  - Beltone (model: Beltone First)

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Accessibility Features

Hearing Aid Settings

iOS - Apple

Hearing Aid Settings

Apple - Hearing Aids Settings

- Settings available in iOS 7 to maximize performance between hearing aids and iPhone.
  - iPhone 4: Decreases transmission power
  - iPhone 5: Modifies acoustic settings to improve compatibility in "T" mode
- Bluetooth connectivity option

Access Apple Hearing Aids Settings

Steps to access Hearing Aids Settings:

1. Select Settings

2. Select General

3. Select Accessibility

4. Select Hearing Aids

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Accessibility Features

Video Calling

iOS - Apple

Video Calling

Apple - Facetime

- Video call app
  - High quality
  - Fast frame-rate
- Integrated with Contacts

Access Apple Facetime

Steps to access FaceTime:

1. FaceTime App

2. Select Contact

3. Select FaceTime menu item

Android 4.4 (KitKat) – Google

Video Calling and Text Messaging (Integrated)

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

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

Text Messaging

iOS - Apple

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

Accessibility Features

Vibrating and Visual Alerts

iOS - Apple

Vibrating and Visual Alerts

Apple - Visual and Vibrating Alerts

- Vibrating or LED alerts to notifications
  - Email, texts, voice calls

Access Apple Vibrating on Ring

Steps to enable Vibrate on Ring:

1. Settings

2. Sounds

3. Turn on Vibrate on Ring

Access Apple LED Flashing for Alerts

Steps to enable and disable LED Flashing:

1. Settings

2. General

3. Accessibility

4. LED Flash for Alerts

Android 4.4 (KitKat) – Google

Vibrating and Visual Alerts

Android - Vibrating & LED Alerts

- Vibrating or LED alerts to notifications
  - Email, Texts, Voice calls

Access Android LED Flash

Steps to enable LED Flash:

1. Settings

2. Display

3. Pulse notification light

Access Android Vibrate when Ringing

1st method to enable Vibrate on Ring:

1. Phone

2. Options (bottom right of screen)

3. Call settings

4. Vibrate when ringing

2nd method to enable Vibrate on Ring:

1. Settings

2. Sound

3. Vibrate when ringing

Accessibility Features

Captioning

iOS - Apple

Captioning

Apple - Subtitles & Captioning

- Provides CC or subtitle support to:
  - movies, podcasts, TV shows
  - iTunes, YouTube, Netflix
  - Look for "CC" icon
- Many options to customize font:
  - size
  - style

Access Apple Subtitles & Captioning

Steps to access Subtitles & Captioning options

1. Settings

2. General

3. Accessibility

4. Subtitles & Captioning

5. Option to enable or disable feature, and select from various styles

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Android 4.4 (KitKat) – Google

Captioning

Android - Captions

- Provides CC or subtitle support to:
  - movies, podcasts, TV shows
  - Play store, YouTube, Netflix
  - Look for "CC" icon
- Many options to customize font:
  - size
  - style

Access Android Subtitles & Captioning

Steps to access Subtitles & Captioning options

1. Settings

2. Accessibility

3. Captions

4. Options include Language, Text size,

Caption style, Font family, Text color,

and Edge type

Accessibility Features

TTY Support

iOS - Apple

TTY Support

Apple - TTY Support

- Teletype (TTY) machines are used by deaf and hard of hearing people to communicate by typing and reading text.

- May need a TTY adapter to use with TTY machine

Access Apple TTY Settings

Steps to access TTY settings:

1. Settings

2. Phone

3. TTY

Android 4.4 (KitKat) – Google

TTY Support

Android - TTY Support

- Teletype (TTY) machines are used by deaf and hard of hearing people to communicate by typing and reading text.

- May need a TTY adapter to use with TTY machine and audio jack on Android phone

Access Android TTY Settings

Steps to enable TTY settings:

1. Phone app

2. Options (bottom right)

3. Call Settings

4. TTY mode. Options include: TTY Off, TTY Full, TTY HCO, TTY VCO

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)](www.itunes.apple.com/us/genre/mobile-software-applications/id36?mt=8)
  - [Google Play (www.play.google.com/store)](www.play.google.com/store)
  - [Windows Phone Store (www.windowsphone.com/en-us/store/featured-apps)](www.windowsphone.com/en-us/store/featured-apps)
- FCC Accessibility Clearing House
  - [FCC Accessibility Clearing House (www.ach.fcc.gov)](www.ach.fcc.gov)
- Global Accessibility Reporting Initiative (GARI)
  - [GARI (www.gari.info)](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)
    - Provides direct links to manufacturers & service providers accessibility sites
- Global Accessibility Reporting Initiative (GARI)
    - GARI (www.gari.info)
    - Ability to compare device accessibility features
    - Filter by dexterity, seeing, hearing and cognition

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Local and National Disability Resources

- National Association of the Deaf (NAD)
  - [National Association of the Deaf (www.nad.org)](www.nad.org)
- Telecommunications for the Deaf, Inc (TDI)
  - [Telecommunications for the Deaf, Inc (ww.tdiforaccess.org)](ww.tdiforaccess.org)
- Hearing Loss Association of America (HLAA)
  - [Hearing Loss Assoc. of America (www.shhh.org)](www.shhh.org)
- Technology Access Program
  - [Technology Access Program (www.tap.gallaudet.edu)](www.tap.gallaudet.edu)

Take the "Exit" Survey

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

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

Final Questions?

Contact Us!

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