



# **Understanding Apps and Tablets Accessibility: Back to the Basics**

Liz Persaud and Martha Rust

*Tools for Life*

[www.gatfl.org](http://www.gatfl.org)

[www.amacusg.org](http://www.amacusg.org)



# Back to the Basics

- With the introduction of Apps, we are experiencing a drastic technology evolution that is revolutionizing the field of Assistive Technology and producing positive life changing results for individuals with disabilities.
- Apps are assisting students by promoting more independence, increasing opportunities for inclusion, promoting depth of learning, providing equal access in educational settings and supporting smoother transitions.
- This session will provide participants with opportunities to explore tablets and their accessibility features as well as learn about some apps that can assist students at school.

# Agenda

- Tools for Life Overview
- Understanding the Difference between Android & Apple
- Closer Look at Tablets
- Considering Accessibility
- Access the Tools For Life AppFinder
- Exploring a Few of Tools for Life Favorite Apps

# AMAC

AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private and non-profits organization working with individuals with disabilities. Services include e-text, braille, captioning, assistive technology, office management software and consulting.





# Accessibility Made Smart

AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.

- **Accessibility Consulting** focuses on organizational accessibility needs with evaluation, technical assistance, customer support, and website accessibility solutions.
- **Braille Services** produces customized projects from both print materials and electronic text including partial books and chapters or graphics only using cutting-edge technology.
- **Captioning Services** makes classrooms, meetings, labs and other audio environments fully accessible for deaf or hard-of-hearing.
- **Professional E-Text Producers** provide high-quality e-text in many formats such as PDF, DOC, DAISY, and HTML.
- **Certified Assistive Technology team** provides on-site and remote assessments, demonstrations, training and technical assistance for education, work, and daily living environments.

For more information, please visit our website at [www.amacusg.org](http://www.amacusg.org)

# Tools for Life Mission

We're here to help Georgians with disabilities gain access to and acquisition of assistive technology devices and assistive technology services so they can live, learn, work, and play independently in the communities of their choice.





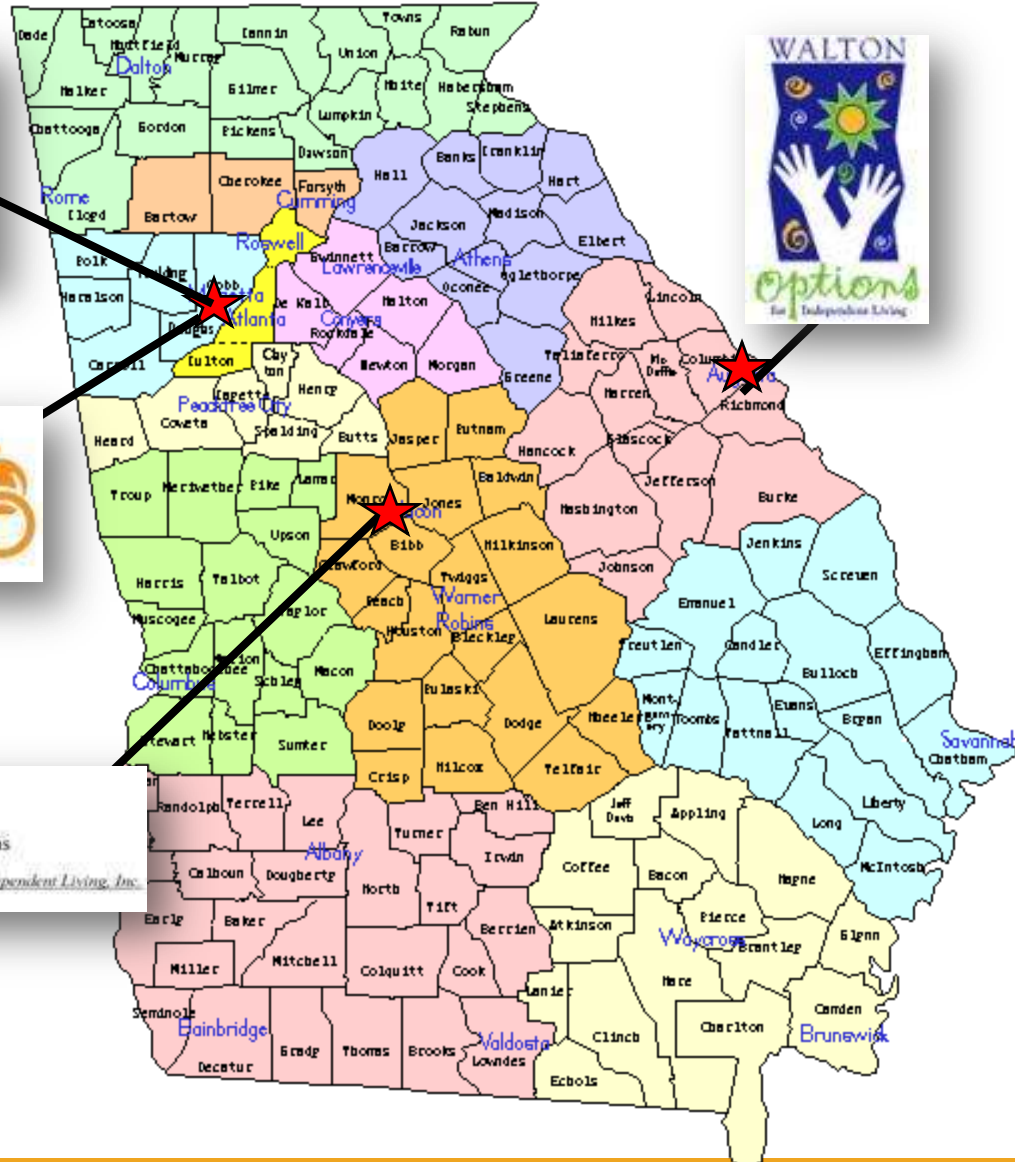
# **Tools for Life**

## **Georgia's Federal AT Act Program**

- TFL developed Georgia's Plan for AT
- We serve individuals of all ages & all disabilities in Georgia
  - Over 50,000 thru various activities throughout the year
- TFL Network
  - Assistive Technology Resource Centers
  - Lending Libraries
  - Training and Demonstrations
  - AT Reuse
  - AT Funding Education/Assistance and Resources
- Online Resources
  - [www.gatfl.org](http://www.gatfl.org) - 12,000 unique visitors a month

# Tools for Life Network

- AT Lending Library
- AT Evaluations & Training
- AT Demos
- Resource and Assistance
- AT Funding Assistance
- DME Reuse





# Who are We Serving

Over 54,000,000 individuals in the United States have disabilities that affect their ability to:

- see
- hear
- communicate
- reason
- walk
- perform other basic life functions



People with disabilities are the largest minority group in America.

This group cuts across racial, ethnic, religious, gender and age boundaries.

Anyone can become a member of this minority group at any time.



# Android & Apple



# Which One???



# So how do you like that new iPad?



<http://www.youtube.com/watch?v=R6WuHzE-1fk>

# LET'S TAKE A LOOK AT SOME OPTIONS





# Microsoft Surface

- Windows 8
- Slim and has a USB port
- Moveable Tiles
- Built-in Accessibility
  - Speech-to-text
  - Narrator
- Thin pressure sensitive cover that doubles as a keyboard
- Starts at \$499





# Samsung Galaxy



- Download Accessibility Features
- 7 inch or 10 inch screen available
- Compatible with flash/ WIFI
- 8.0 coming out February 2013 in Europe
- 8.0 will have a better camera and use a SIM card for storage
- Starts at \$199.99 but 8.0 may be more

# Motorola XOOM



- Android System
- Must download accessibility features
- Compatible with Flash
- Camera
- Wi-Fi
- Uses micro SIM card for external storage
- Starts at \$319.00

# Apple iPad

- Multi- touch screen
- New iOS 6
- Millions of apps
- Surf web
- iTunes
- Videos
- Organization
- Accessibility
- Books
- Photos
- Speakers
- New iPad had 5.0 megapixel camera
- Starts at \$499/\$399



Height: 9.50 in  
Width: 7.31 in  
Depth: 0.37 in  
Weight: 1.44 lb

# Apple iPad mini

- Multi - touch screen
- New iOS 6
- Millions of apps
- Surf web
- iTunes
- Videos
- Organization
- Accessibility
- Books
- Photos
- Speakers
- 5.0 megapixel camera
- Starts at \$329



Height: 7.87 in  
Width: 5.3 in  
Depth: 0.28 in  
Weight: 0.68 lb

# Apple iPod Touch

- 5 Megapixel Camera
- Millions of apps
- Videos
- Surf Web
- Voice Over
- Organization
- Speakers
- Bluetooth
- New iOS 6
- Starts at \$299 / \$199 4<sup>th</sup> gen



# Refurbished Tablets

- If you do not need the latest and greatest consider an older models for a discount
- Want to make sure that refurbish tablets have been certified
- Look for at least 1 year warranty
- Many places now sell
  - Apple
  - BestBuy
  - Amazon





# CONSIDERING ACCESSIBILITY



# Comparing Tablets

**[www.bluebugle.org](http://www.bluebugle.org) - 12/17/2012**

Property	Android	iOS	MS Windows	Amazon Kindle	Barnes & Noble Nook
<b>Number and variety of tablets</b>	Several	iPad & iPad Mini	A few	Kindle Fire & Fire HD	Nook HD
<b>Operating System</b>	Android (latest Jelly Bean)	Apple iOS 6	Windows RT & Windows 8 Pro	Modified version of Android ICS	Modified Android ICS
<b>Apps</b>	Nearly 700,000 (including the ones not optimized for tablets specifically)	Total of 700,000, out of which 275,000 optimized for iPad & Mini	Around 100,000 (including phone apps) of which most are plain junk.	Around 60,000 (from Amazon's special app store for Android)	Around 10,000 (available from Barnes & Noble store for Android)
<b>Software Updates</b>	As it becomes available on Google (for Nexus, directly, and for other manufacturers, as they become available)	Apple releases updates	MS releases updates	Amazon releases updates	BN releases updates
<b>Interface</b>	As designed by manufacturer (on Nexus line, the original unaltered Android interface)	Icons & widgets designed by Apple similar to Mac OS	Metro style designed by Microsoft	Modified version of regular Android interface (known to be slightly better looking)	Modified Android (criticized for worse looks)

# Access

- **iTunes Account**
  - Where you purchase and download app
  - Must create an Apple id
  - <http://support.apple.com/kb/ht2731>
- **Access to wireless Internet**
  - If not using a data plan
- **Cloud**
  - Remote storage of all your data
  - Separate from a computer
- **Computer**
  - If not using the cloud to back up your apps, pictures, videos and contacts

# Layout of the iPad



# Built-in Accessibility Features

- VoiceOver
- Zoom
- Large Text
- Invert Colors
  - (white on black)
- Speak Selection
- Speak Auto Text
- Mono Audio
- Assistive Touch
- Guided Access
- Home-Click Speed
- Incoming Calls
- Braille Displays



# VoiceOver

- Standard feature on iPhones, iPads, and iTouches
  - World's first gesture-based screen reader
  - **DOES NOT WORK WITH ALL APPS**
    - Does not work with many eBooks or textbooks
    - Works with built-in apps
  - Built-in voices that speak 36 languages
- Adjustable speaking rate
  - Echoes each character as you touch it when typing or can speak completed word instead.
  - Speak Auto-text
  - Has the rotor
  - Works with all built-in applications



# Helpful Tips for VoiceOver

- Settings => General => Accessibility => Voice Over
- Adjust settings if needed
- Touch screen to hear description of item and the double- tap to open
- Use VoiceOver with pictures to tell who is in them
- Triple tap screen to activate screen curtain
  - Privacy

# VoiceOver Gestures

- Turn on triple-click home feature
  - Settings => General=> Accessibility
- Two Fingers Flick
  - Reads entire page
- Tap once to hear name of the App and double tap to Open App
- Double Tap with 3 Fingers
  - Turns speech on/off
- Single Finger Flick to the Right and Left
  - Cycle Through Items
- Triple Tap with 3 Fingers
  - Turns privacy screen on/off
- Three Fingers flick to the Left and Right
  - Cycle through the pages

# Helpful tips for VoiceOver

- **The Rotor**
  - Virtual control
  - Rotating 2 fingers on the screen like a dial
  - Changes the way VoiceOver (VO) moves through a document based on setting
  - Can use to navigate through web pages



# Zoom & Invert Colors

- **Zoom**

- Magnify entire screen of any application
- Double-tap with 3 fingers
- Can magnify 100%-500%
- Now work with VoiceOver on!
  - iOS 6 September 2012

- **Invert Colors**

- Reverse video effect works in all applications
- Can be used with Zoom and VoiceOver



# Zoom Gestures

- 3 Finger Double Tap: Enable/Disable Zoom
- 3 Finger Single Tap and Hold: Panning the Screen
- 3 Finger Double Tap Up/Down: Adjust Screen Size

# More Features

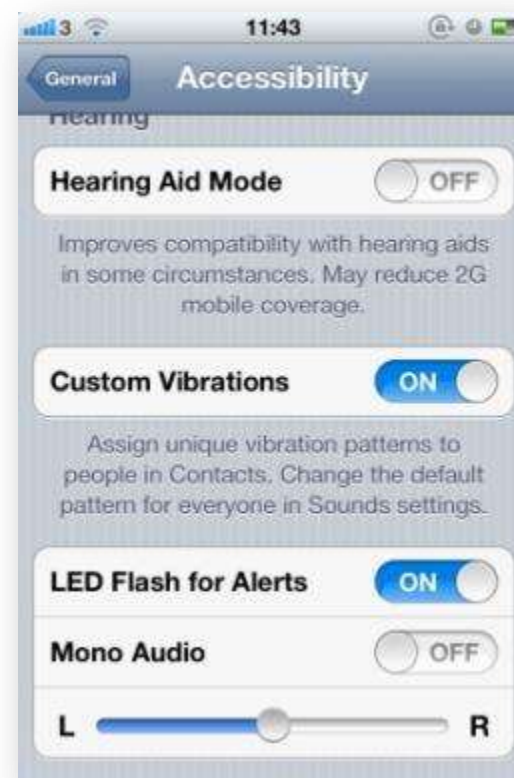
- **Tactile buttons**
  - Easily discernible buttons
- **Large Text**
  - Increase font size up to **56**-point text in alerts, Calendar, Contacts, Messages, and Notes





# Hearing

- Mono Audio
- Custom Vibrations for iPhone
  - Assign unique vibrations patterns
    - Change default in Sounds setting
    - Create you own custom vibrations
      - Save and name it
- LED Flash for Alerts
- Answer calls in Speaker Mode or Headset
  - Accessibility => Incoming Calls
- Visual Voicemails
- TTY mode
- FaceTime (Wifi)
- Closed Captioning
  - Supports playback of open captions, closed captions, and subtitling



# Assistive Touch

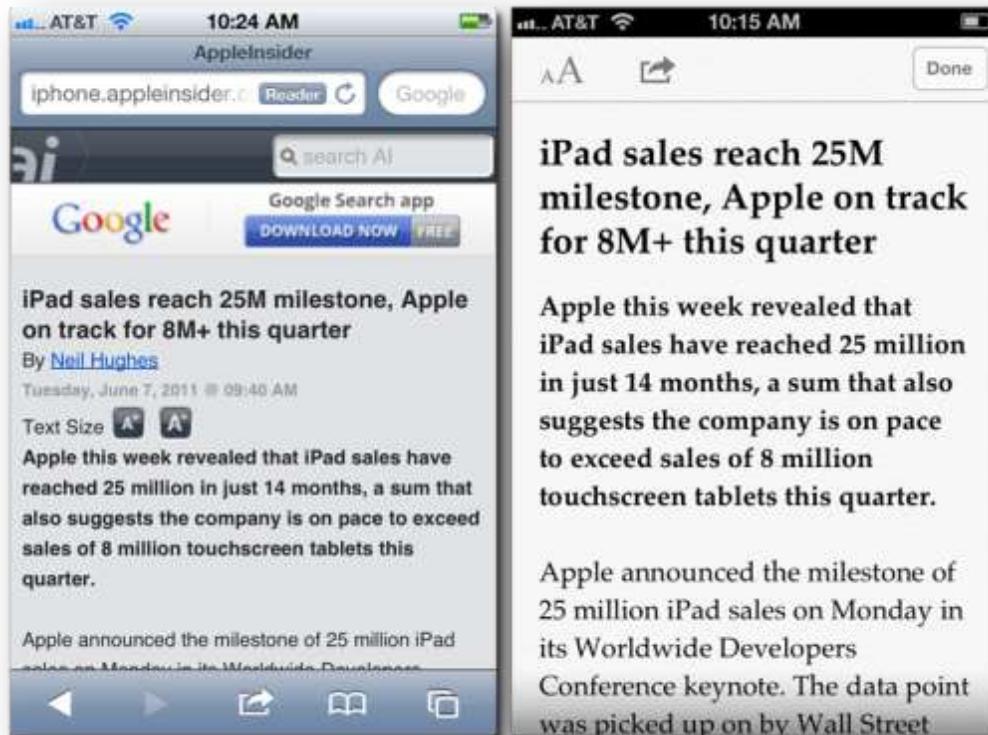
- Lets you enter Multi-Touch gestures using one finger or stylus
  - Create custom gestures
- Supports the use of adaptive input devices
  - Headsets and switches
- Change Tracking Speed



# Creating Keyboard Shortcuts

- Go to General => Keyboard and make sure Shortcut is turned on
- Go to Add New Shortcut
- Put in your Phrase
- Create Short Cut
- Example:
  - Phrase : Martha E. Rust, MS CRC
  - Shortcut is: MER
  - So when MER is typed it will put in the above Phrase
  - OMW => On My Way!

# Reader for Websites



- Read articles and web pages without distractions
- Clutter disappears
- Add link into Reading List and finish later

# iOS 6 NEW: Guided Access

- Helps remain on task and focus
- Limit to one app / turn off home button
- Restrict touch input on certain areas of the screen



# Surface



- 2 types
  - RT
  - PRO
- RT
  - Cannot download software
  - Does not support digital pen
  - Built in MS Office
    - Word, Powerpoint, Excel
- Pro
  - 30 day trial of MS Office
  - Ability to download software
- Open 3 Windows
- Tiles
  - Start screen
- Charms
  - Right hand side



# Layout of Surface

- Power Button

- Camera

- Speaker

- Micro USB

- USB

- Charger

- On Left Side

- Speaker
- Headphone Jack
- Volume control



# Accessibility of Surface

- Uses Windows 8
  - Ease of Access
- Narrator
- Magnifier
- On-Screen Keyboard
- Windows Speech Recognition



# Some Surface Apps

- Maluuba
  - Personal assistant app



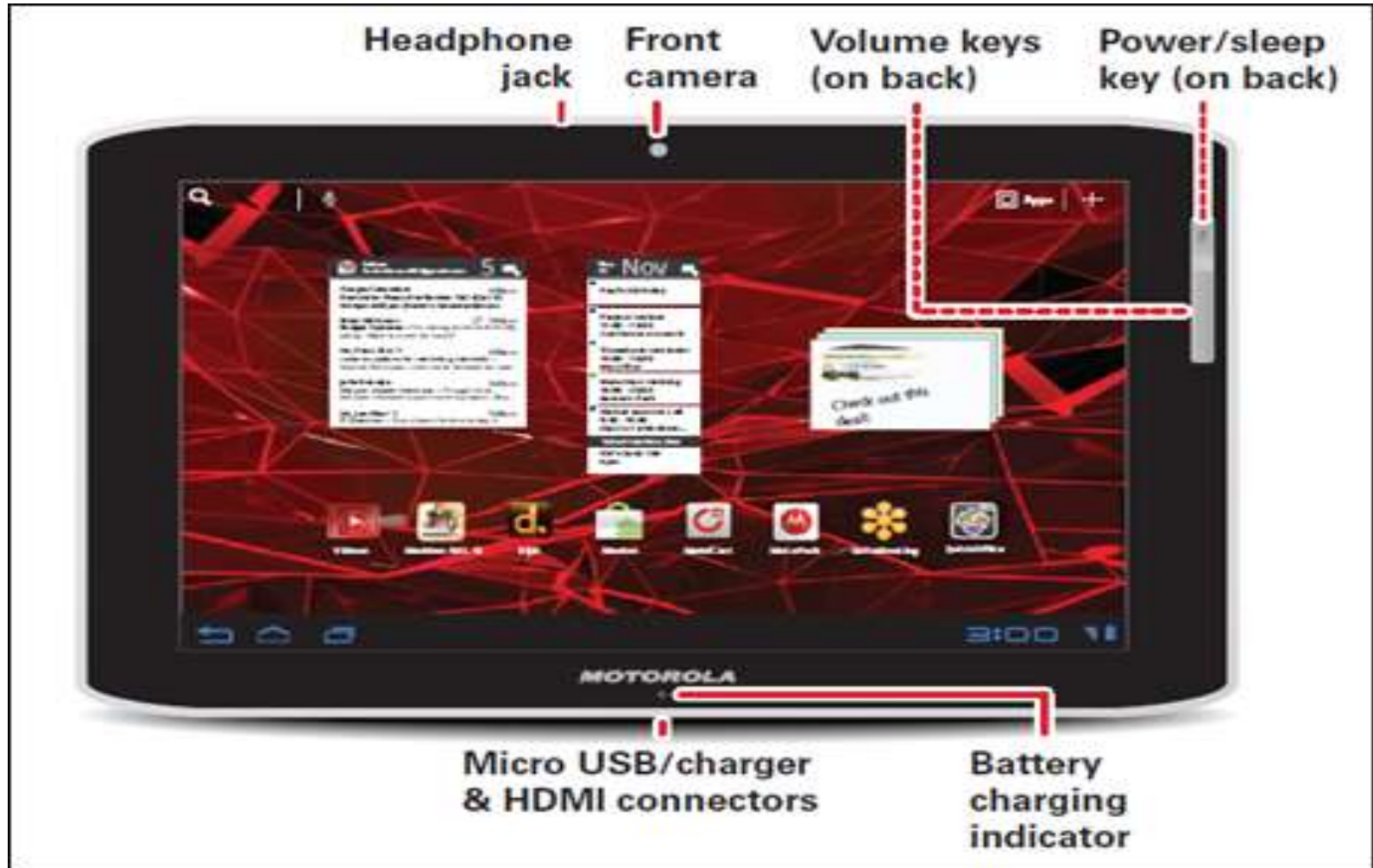
- Apollo
  - Can be a calendar
  - See when the sun sets and rises



- Barcode Generator
- Free way to create your own barcodes



# Layout of XOOM



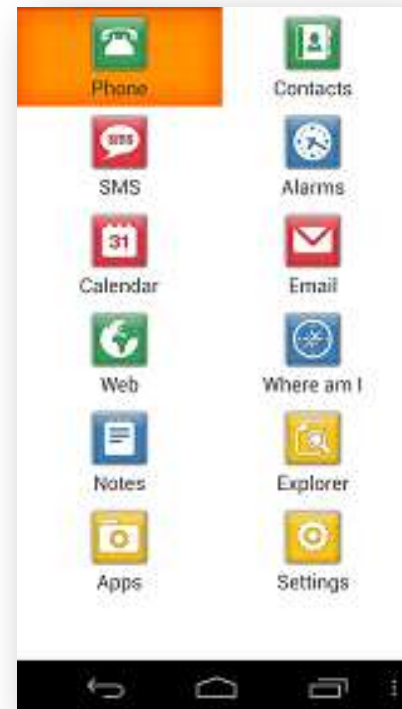
# Android Tablets

- Accessibility features are not built in
  - Talkback, Kickback, and Soundback
  - Gesture Feature in Jellybean
  - Eyes - free keyboard
  - IDEAL Web Reader for internet
  - No zoom or contrast right now
- What operation system is tablet running
  - Jellybean, Ice cream sandwich, Honeycomb, Gingerbread
- Google Play Store to buy apps
  - Must have Gmail address
  - Can use Amazon gift cards
- Not the best to use with someone who has low vision and/or blind or cognitive disabilities



# Accessible Android Apps

- Big Launcher- icons look darker and text is larger
- Vlingo Virtual Assistant and iris. (alpha)- voice command apps
- Text to Speech Toy- Text-to- Speech
- Eyes-free keyboard
- IDEAL web reader
- Code Factory - Mobile Accessibility Suite for AT&T users
  - 12 different apps / 30 day free trial -\$99
- [www.androidaccess.net](http://www.androidaccess.net)





# TFL AppFinder

**Search by:**

✓ **App Name**

✓ **Categories**

- Book
- Education
- Environmental Adaptations
- Hearing
- Cognition, Learning, Developmental
- Navigation
- Personal Care and Safety
- Productivity
- Communication
- Therapeutic Aids
- Vision







## TRAINING

[View Presentations](#)[Request Training](#)

## FUNDING

[Resource & Assistance](#)[Dollars & Sense Database](#)[Online Equipment  
Exchange](#)

## RESOURCES

[TFL Newsletter](#)

## CONTACT US

[Meet the TFL Team](#)[Advisory Council](#)[Directions/Map](#)[Join our Mailing List](#)[Welcome](#)[AT Services](#)[Try AT](#)[Get AT](#)[AT Guides](#)[Research](#)

### Welcome to Tools for Life

Tools for Life, Georgia's Assistive Technology Act Program, is dedicated to increasing access to and acquisition of assistive technology (AT) devices and services for Georgians of all ages and disabilities so they can live, learn, work and play independently and with greater freedom in communities of their choice.

Tools for Life and the TFL Network work collaboratively together to accomplish our mission through:

- [AT Demonstration](#)
- [AT Evaluations and Assessments](#)
- [AT Funding Options & Education](#)
- [Access to the TFL AT Lending Libraries](#)
- [AT & Durable Medical Equipment Reuse](#)
- [AT Training \(Individual\)](#)
- [AT Training \(Groups\)](#)

### 2013 IDEAS CONFERENCE

2013 Institute Designed for  
Educating All Students Conference  
June 3 - 6, 2013  
Epworth by the Sea, St Simons Island

- [Submit a Proposal](#)
- [Conference Website](#)
- [Exhibitor Details](#)

### WEBINARS

APR  
18

[Free for All! Resources for  
Teachers and Students](#)

APR  
24

[Assistive Technology and  
Adapted Recreation: A  
Perfect Match](#)

[Current Webinar Schedule](#)  
[Webinar Archives](#)

### APP FINDER



... Living, Learning, Working, and Playing.

### AT ONLINE EXCHANGE

 [gTRADE, Georgia's Online  
Equipment Exchange](#)

encourages members to offer AT and DME for sale or donation to others who may benefit from using technology unneeded by others.

Firefox Zimbra: Inbox Tools for Life

www.gatfl.gatech.edu/favorite-search.php

GT Mail Tools for Life TFL Wiki AMAC Facebook Adobe Connect Centr... Playbook TFL Database Gmail GT Sites Eventbrite Websites Quickbase Bookmarks

# Georgia Tech TOOLS for LIFE

Georgia's Assistive Technology Act Program

HOME ASSISTIVE TECHNOLOGY TFL NETWORK CALENDAR OF EVENTS

Search our Site Go

## TRAINING

View Presentations

Request Training

## FUNDING

Resource & Assistance

Online Equipment Exchange

## RESOURCES

TFL Newsletter

## CONTACT US

Meet the TFL Team

Advisory Council

## AppFinder

[About](#) | [Our Other Favorite Apps Databases](#) | [Helpful Links](#)

Welcome to the Tools for Life Database - Our Favorite Apps for Living, Learning, Working and Playing!

**Search By:**

Name:

OR

Category:

Price: ☒ Free ☐ Up to \$4.99 ☐ Up to \$9.99 ☐ All

Device Type: ☒ All ☐ Android ☐ iOS ☐ Microsoft

[Add an App](#) | [Rate an App](#) | [Comments and Suggestions](#)

Version: 1.0

## 2013 IDEAS CONFERENCE

2013 Institute Designed for Educating All Students Conference  
June 3 - 6, 2013  
Epworth by the Sea, St Simons Island

[Submit a Proposal](#)

[Conference Website](#)

## WEBINARS

**APR 18** [Free for All! Resources for Teachers and Students](#)

**APR 24** [Assistive Technology and Adapted Recreation: A Perfect Match](#)

[Current Webinar Schedule](#)

[Webinar Archives](#)

## APP FINDER

...for Living, Learning, Working, and Playing.

## AT ONLINE EXCHANGE

aTRADE Georgia's Online



## TRAINING

[View Presentations](#)
[Request Training](#)

## FUNDING

[Resource & Assistance](#)
[Dollars & Sense Database](#)
[Online Equipment  
Exchange](#)

## RESOURCES

[TFL Newsletter](#)

## CONTACT US

[Meet the TFL Team](#)
[Advisory Council](#)
[Directions/Map](#)
[Join our Mailing List](#)

## My Favorite Apps

You searched for: Learning, Cognition, and Developmental

Logo	Name	Category	Device Type
	<b>tango Video Calls</b> Tango brings you free, high-quality mobile voice and video calls over 3G and Wi-Fi! Millions of people around the world are using Tango in an exciting new way. It	Learning, Cognition, and Developmental	iOS
No Ratings			
	<b>i-prompt</b> Professional Tele-prompting software for your iPhone or iPod Touch.	Learning, Cognition, and Developmental	iOS
No Ratings			
	<b>Dragon</b> Dragon Dictation is an easy-to-use voice recognition application powered by Dragon	Learning, Cognition, and Developmental	iOS
★★★★★ 5 stars by 1 users			
	<b>iBooks</b> iBooks includes the iBookstore, where you can download the latest best-selling books or your favorite classics	Learning, Cognition, and Developmental	iOS
No Ratings			
	<b>Say Text</b> SayText reads out loud the text in the image. It is intended for the visually impaired users. SayText is a free spin off product from the DocScanner team.	Learning, Cognition, and Developmental	iOS

## 2013 IDEAS CONFERENCE

2013 Institute Designed for Educating All Students Conference  
June 3 - 6, 2013  
Epworth by the Sea, St Simons Island

- [Submit a Proposal](#)
- [Conference Website](#)
- [Exhibitor Details](#)

## WEBINARS

**APR  
18**

[Free for All! Resources for Teachers and Students](#)

**APR  
24**

[Assistive Technology and Adapted Recreation: A Perfect Match](#)

[Current Webinar Schedule](#)  
[Webinar Archives](#)

## APP FINDER



...for Living, Learning, Working, and Playing.

## AT ONLINE EXCHANGE

 **gTRADE** [gTRADE - Georgia's Online Equipment Exchange.](#)

encourages members to offer AT and DME for sale or donation to others who may benefit from using technology unneeded by others.



# SOME OF OUR FAVORITE APPS!



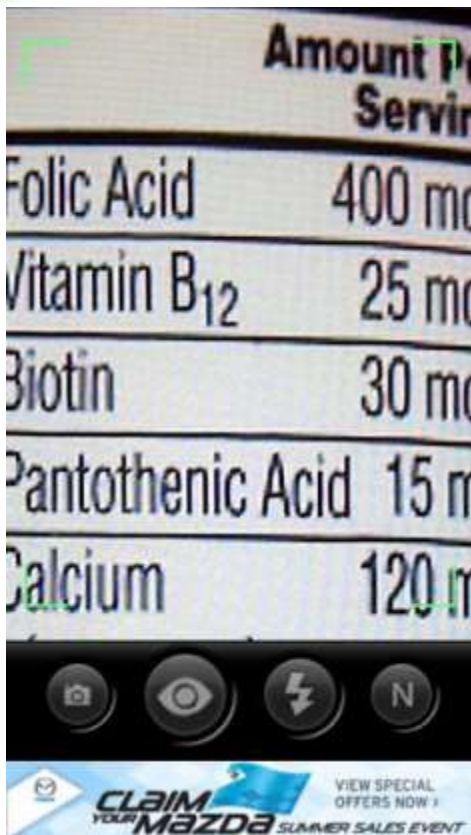
# Darwin Wallet



- Uses the camera to determine the currency
- Hold the bill in front of the phone's camera and the app will speak its value
- Free



# Magnify



- FREE
- Turns Android phone into a digital magnifying glass with built-in flashlight
- Can use gestures anywhere on the screen:
  - Double-tap: Zoom out/in
  - Single-tap: Focus
  - Long-press: Turn light on/off



# Hearing Saver



- Operates in the background to protect your ears automatically
- Simple way to avoid accidentally hurting your ears when plugging in or unplugging your Android device's wired or bluetooth headset
- Does take time to set-up
- FREE





# MyMedSchedule



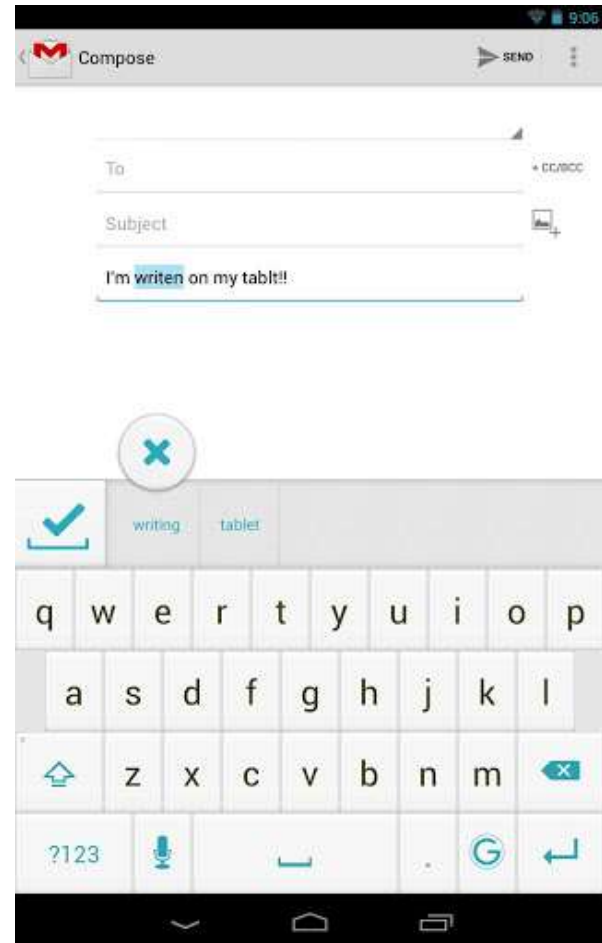
- Keep track of medication
- Reminders
- Refill Reminders
- Healthcare Provider Profiles
- Insurance Information
- Allergies
- Works across Platforms
- Free
- [www.mymedschedule.com](http://www.mymedschedule.com)



# Ginger App



- Free
- Grammar and Spell checker
- Personal Assistant
- Use it to correct text messages, Whatsapp messages, Gmail and Outlook emails, and even social media apps such as Facebook





- Free
- Keep track of your cash and credit cards
- Pay your bills
- Real-time alerts and reminders about upcoming bills, overage charges, and suspicious transactions
- Understand your debt



# Key Ring

- One Place to store all reward cards
- Organized
- Android & Apple version
- [www.keyringapp.com](http://www.keyringapp.com)
- **Free!**



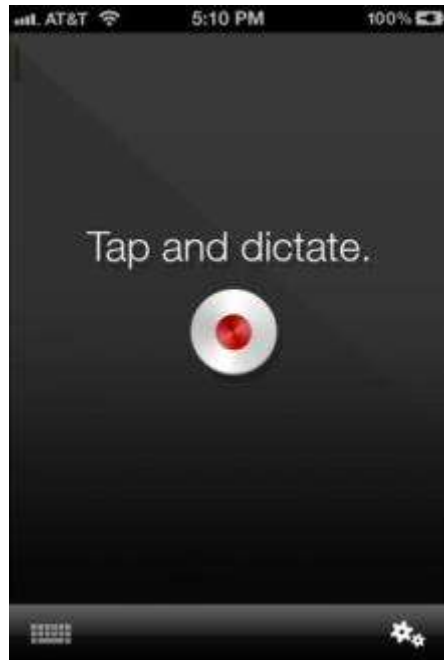
# Bump



- Use Bump™ to share contact information and photos by simply bumping two phones together.
- Just open Bump, hold your phones, and gently bump your hands together
- **Free!**

[Demo](#)

# Dragon Dictation



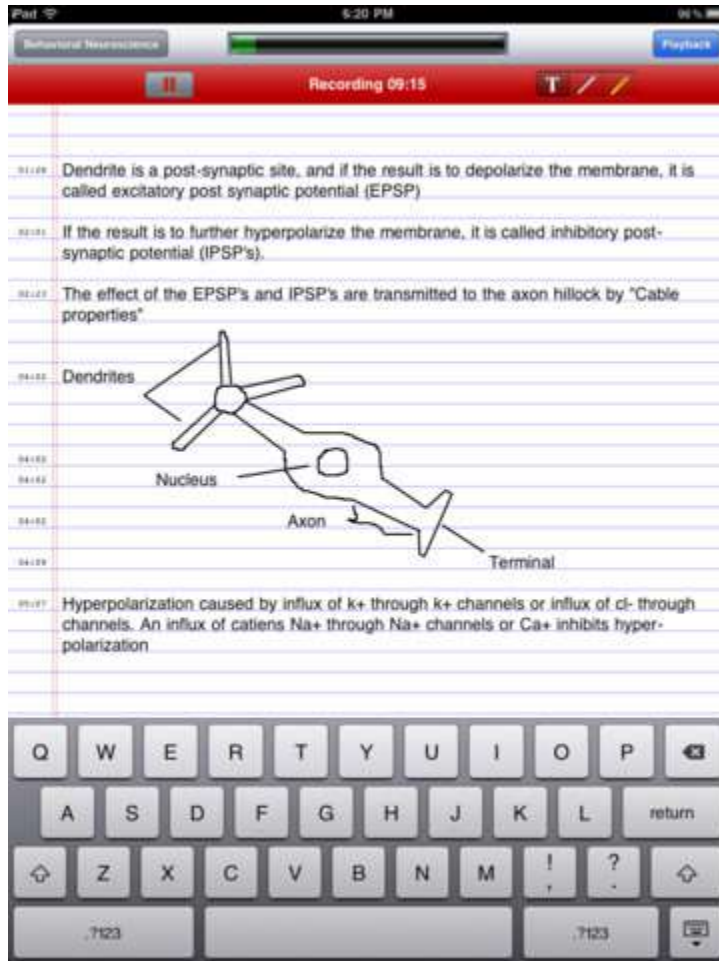
Hi John call me when you get this e-mail. I'm running a little bit late.



- Voice Recognition
- Free
- Dictate notes, emails, Twitter, and Facebook
- Supports many languages
- Cut, Copy, Paste
- Android
  - Dragon Go!
  - Dragon Hands Free Assistant



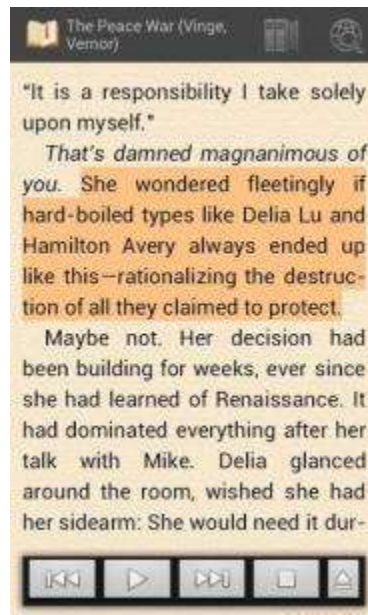
# AudioNote



- Records your notes, meetings or lectures
- Can take notes by typing, stylus, or drawing
- Time stamps so you can go directly to where you want to hear
- Highlights notes when read back
- \$4.99



# FBReader TTS+ Plugin



- Free
- eBook Reader
- Text-To-Speech plugin for FBReader for Android
- Can highlight whole sentences or paragraphs
- Change settings for voice and download voices

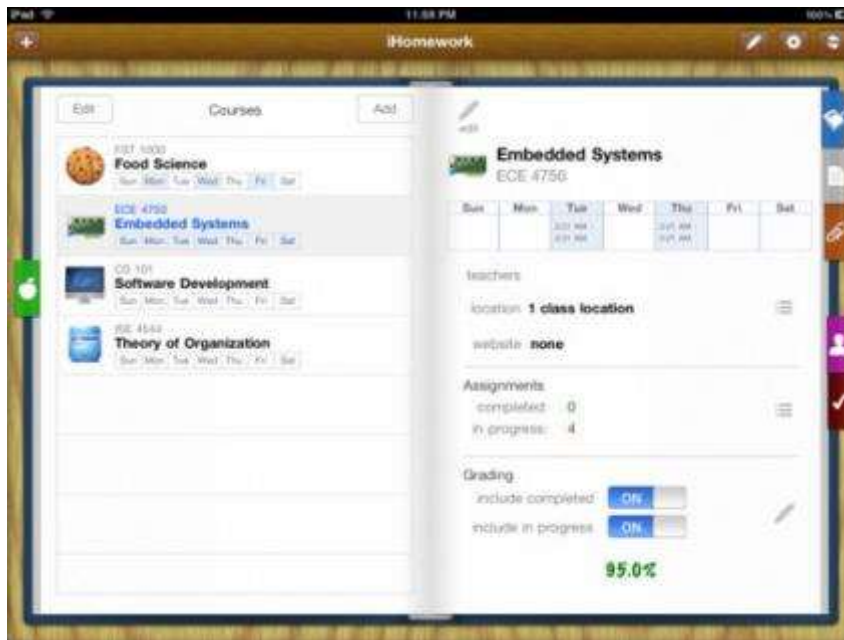
# Perfect OCR



- \$3.99
  - Uses the built in camera to scan documents
- Edit, copy, store, email documents
- Upload to online storage is as Evernote
- Does take practice for picture



# iHomework



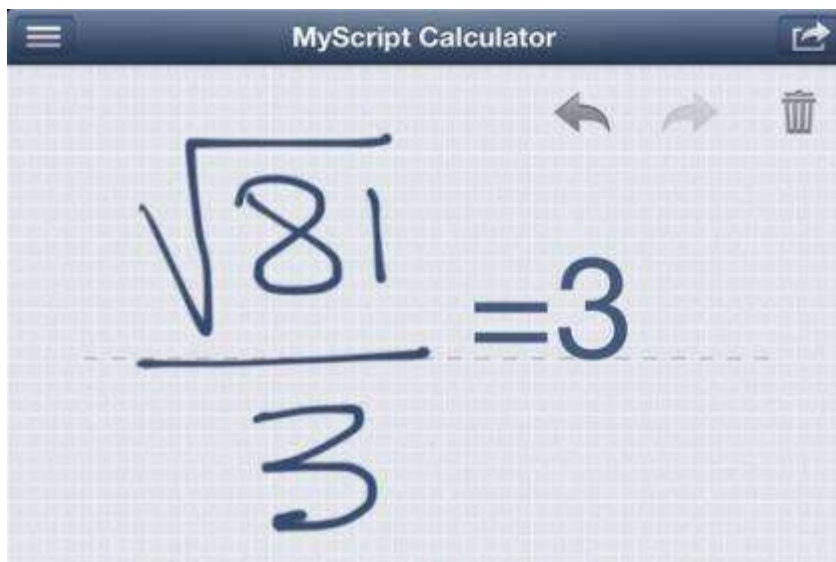
- Keep up-to-date with your school work, grades, to-do's, teacher's information
- School organizer that can be with you anywhere you go, whether that be on your iPhone/iPod touch, iPad, or Mac

# Reminders



- Built-in App
- Works with VoiceOver
- Organize your reminders
- Siri if have iPhone 4s or 5
- The new iPad

# MyScript Calculator



- Use your handwriting to write any arithmetic formula
- Write and calculate mathematical expressions in with no keyboard
- Scratch-out gestures to easily delete symbols and numbers
- Portrait and landscape operation
- Redo and undo functions



# Money Counter Calculator



- iPad only
- Enter amount of coins and dollars and total is provided
- Free

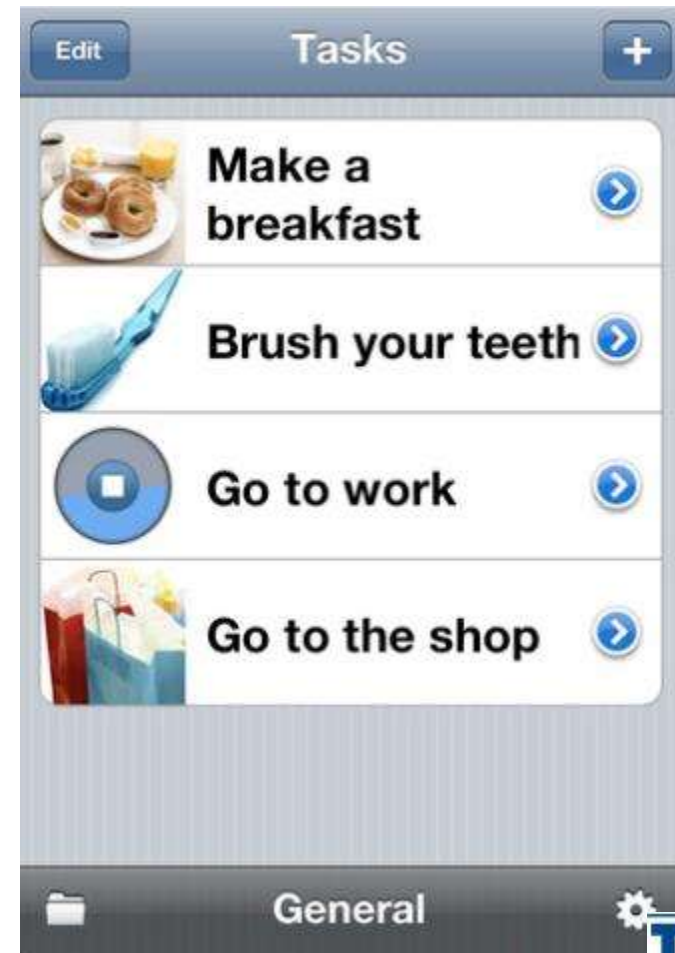




# Picture Scheduler



- Create visual tasks with attached audio, video or picture
- Tasks can have alarms
- Alarms can be repeated daily, weekly, monthly or you can select specific weekdays
- Tasks can be organized into categories with a picture
- Can hide task and reveal later



# Speak it!



- Copy emails, documents, web pages, PDF files, and more; paste them into Speak it!, and have the text spoken back to you.
- Email text to speech files
- Make announcements over PA system
- Endless phrases and possible uses
- \$1.99

# BrailleTouch

- Prototype app for touchscreen mobile devices
- FREE Open Source app
- 32 words per minute with 92% accuracy with the prototype app for the iPhone
- Use of the six-key configuration so that the keyboard fits on the screen and users keep their fingers in a relatively fixed position while texting
- GA Tech Researchers
- Type with screen facing away
- Braille like typing



# LookTel Money Reader



- iOS App
- \$1.99
- Uses camera
- Speaks out loud
- Do not need to hold bill steady or in entire frame



# iZen Garden



- Choose from 100s of objects, plants and creatures to place in your garden
- Rake the sand and share your creations
- Helps you to center your mind, relax your psyche and relieve your stress

# **Talk with Us!**

## **What are Your Favorite Apps?**





**Our Question to You:  
What have You Learned today?**

# Contact

**Liz Persaud**

Training, Development and Outreach Coordinator

[Liz.Persaud@gatfl.gatech.edu](mailto:Liz.Persaud@gatfl.gatech.edu)

**Martha Rust**

AT Specialist

[Martha.Rust@gatfl.gatech.edu](mailto:Martha.Rust@gatfl.gatech.edu)

## Disclaimer

*This presentation is produced by Tools for Life which is a result of the Assistive Technology Act of 1998, as amended in 2004. It is a program of the Georgia Institute of Technology, Enterprise Innovation Institute [EI2], Alternative Media Access Center (AMAC) and is funded by grant #H224C030009 of the Rehabilitation Services Administration (RSA), Department of Education. The contents of this presentation were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, Georgia Tech, EI2 or AMAC and you should not assume endorsement by the Federal government.*