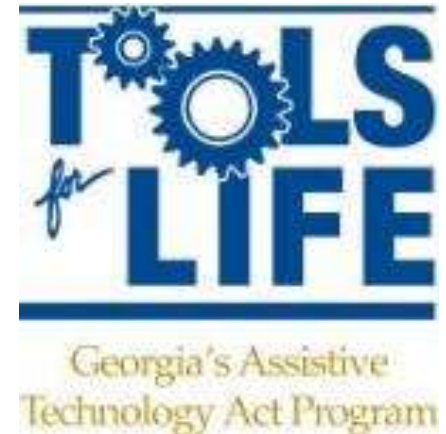


# Diving Beneath the Surface: A Closer Look at Tablets, Apps and Accessibility

Carolyn Phillips & Martha Rust

*With contributions from Liz Persaud & Ben Jacobs*

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



# Diving Beneath the Surface: A Closer Look at Tablets, Apps and Accessibility



**Welcome to the Tablet revolution! As the economy recovers and mobile technology solutions evolve, more schools and workplaces are implementing a Bring Your Own Technology (BYOT) model. AT professionals are considered the experts when it comes to these devices, accessibility and how these solutions can assist individuals with disabilities. There are significant differences among the tablets and the accessibility options on them. Participants will explore the Tools for Life AppFinder, various tablets and associated accessibility features to learn how to determine which are most helpful so that individuals will achieve success.**

## **Learning Objectives:**

- Participants will be able to compare and contrast at least 3 of the popular mobile tablets.
- Participants will be able to assess accessibility features of tablets to make informed choices.
- Participants will be able to discuss at least 10 apps that can assist individuals with reading, writing, organization and daily living.
- Participants will be able to successfully navigate the Tools for Life AppFinder.



# Agenda



- Welcome and Introductions – Give/Get Activity
- Take a Look at AMAC & Tools for Life
- Learn about the Tools for Life AppFinder
- Exploring Tablets
- Understanding Accessibility Features
- Critical Conversations
- Exploring Our Favorite Apps
- Sharing Your Favorite Apps
- Q&A

For Handouts: <http://www.gatfl.gatech.edu/tflwiki>



# AMAC Accessibility Services



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.

# 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.

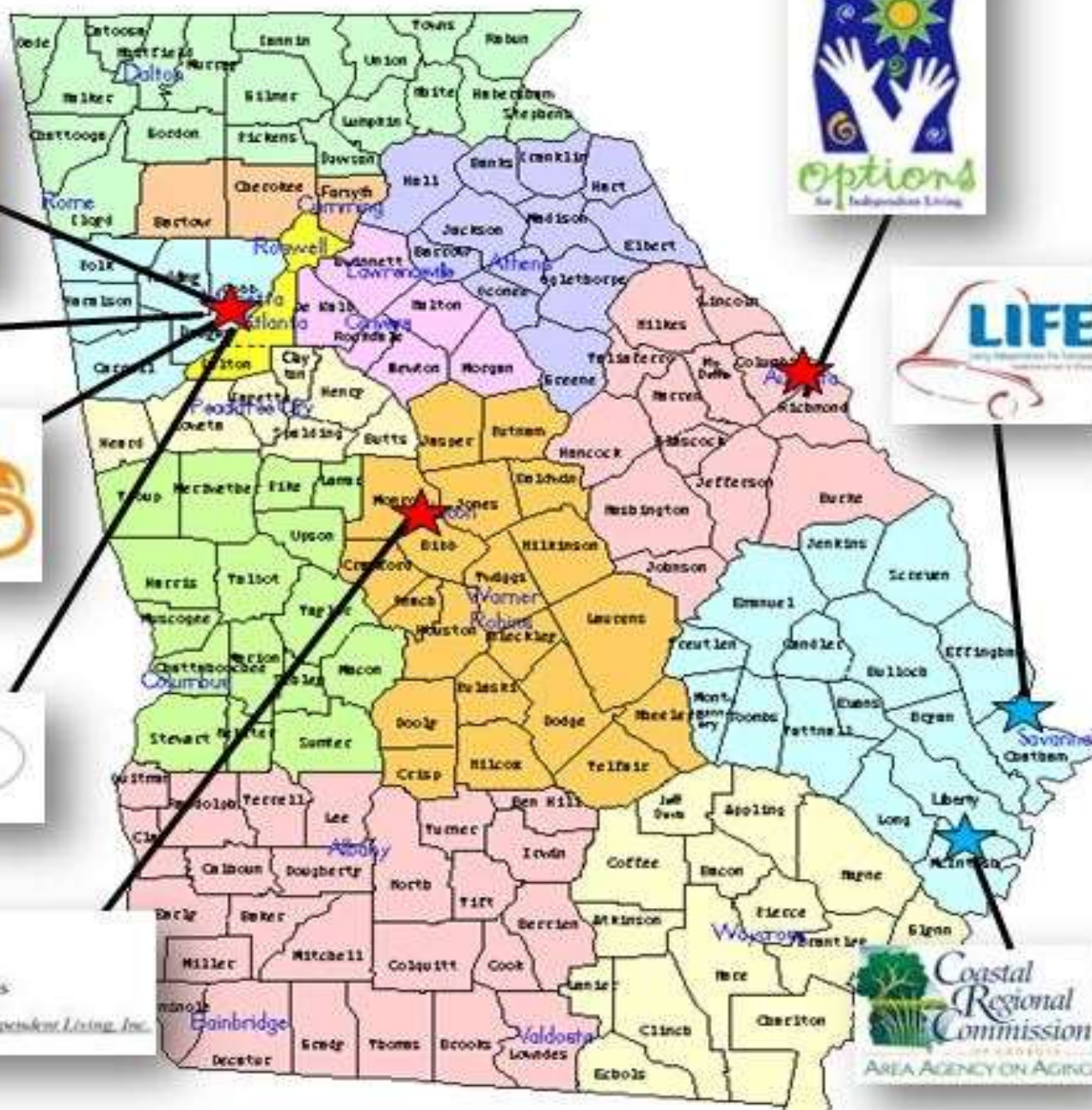


# Tools for Life & TFL Network



- 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/Outreach Sites
  - Lending Libraries
  - Training and Demonstrations
  - AT Reuse
  - AT Funding Education and Resources
- Online Resources
  - [www.gatfl.org](http://www.gatfl.org) - 12,000 unique visitors a month





# TechSage (RERC)



- Funded by: National Institute on Disability and Rehabilitation Research (NIDRR), Dept. of Ed
- Timeline: Oct 1, 2013 – Sept 30, 2018
- Amount: \$4.6 million (\$925k/year) + ~ \$1 million GT cost share
- Interdisciplinary: CoA (ID, GIS, AMAC), CoS (Psych), CoE (BME), CoC (HCI/HCC), IPAT (IMTC, Awarehome), GTRI, Emory Ctr. for Health in Aging, CS/Engineering USC





# TechSage Mission



To conduct programs of advanced rehabilitation engineering (RE) and technical R&D to increase knowledge about, availability of, and access to **effective, universally-designed technologies that enable people to sustain independence, maintain health, safely engage in basic activities of daily living at home and community, and participate in society as they age with disability.**



# Core Principles and Strategies



- Focus on People with Disability who are Experiencing Age-Related Limitations
- A Basis in User Needs
- UD as the Fundamental Goal of all Efforts
- Multi and Interdisciplinary Approach to Improving Rehabilitation Outcomes



# Scope



- Research (Rogers)
  - R1. User Needs (Rogers, Fain, Jones)
  - R2. Effects of Hearing Loss (Bruce, Echt)
  - R3. Exercise Telereobotics (Mitzner, Beer)
- Development (Price)
  - D1. App Development
    - D1.1. Cognitive Training Game (Gandy-Kennedy)
    - D1.2. Route Planning App (Sanford, Guhathakurta)
    - D1.3. Mobile App to Measure Gait (Jones, Johnson)
  - D2. SmartBathroom Technologies (Sanford, Jones)
  - D3. Intelligent Robotics (Kemp)
- Training (Sanford)
  - T1. Online Education (Phillips)
  - T2. Post Secondary Education (Sanford)
  - T3. UD Competition (Rébola)
- Dissemination (Mitzner)



[Home](#) » [Projects](#) » [Development Projects](#) » App Factory (D1)

Text Size: [+](#) [Increase](#) [-](#) [Decrease](#) [=](#) [Normal](#) Current Size: 100%

## Projects

[Research Projects](#)

[Development Projects](#)

[Training Projects](#)

## App Factory (D1)

The overall purpose of this project is to advance universal design in the wireless community. The objectives of this project are development, deployment, and adoption of software applications ("apps") to enhance the utility and usability of wireless products and services for wireless customers with and without disabilities.

App Factory output will include apps designed specifically to address barriers to wireless access and use by people with cognitive, physical, sensory, and/or speech disabilities. Wherever practical, these apps will incorporate features useful to all customers, with or without disabilities.

A complementary objective of this project is development of a practical model for consumer participation in the process of app development. This process engages the community of people with disabilities throughout the process of envisioning, designing, testing, refining, and disseminating applications.

## Latest News

[Wireless RERC Researchers Present at CDC Grand Rounds](#)

[Last Call for 2013-14 App Developers](#)

[Technology Transitions Policy Task Force Workshop](#)

[More News](#)

## Connect with Us!

Like us on **Facebook** 

Follow us on **Twitter** 

[SUBSCRIBE TO NEWSLETTER](#)

## Upcoming Events

September 30, 2013 - 7:00am

[STEM Diversity Career Expo](#)

# Tools for Life

## Georgia's Federal AT Act Program



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  - AT Reuse
  - AT Funding Education/Assistance and Resources
- Online Resources
  - [www.gatfl.org](http://www.gatfl.org) - 12,000 unique visitors a month





# Join us for Upcoming Webinars and Visit our Archives!



## Tools for Life Online Professional Development

- Tools for Life offers online professional development to help you learn more about assistive technology strategies and solutions as well as the most recent information on AT devices and disability related issues and trends. Webinar content and materials are developed and presented by one of the Tools for Life team members along with other regional and national leaders in the assistive technology community.
- TFL presents live webinars on the last Wednesday of every month from 2:00 PM to 3:30 PM EST, unless otherwise noted.

*Sign up to be on the TFL mailing list to receive our email announcements! Visit [www.gatfl.org](http://www.gatfl.org) or send an email to Liz - [liz.persaud@gatfl.gatech.edu](mailto:liz.persaud@gatfl.gatech.edu)*



# Tools for Life



**TOOLS FOR LIFE NETWORK**  
Services include an initial interview, information and assistance, device demonstration, equipment lending library, assessments and training.  
Tools for Life at AMAC | Georgia Tech  
AT Demonstration Lab  
512 Maers St. | Ste. 250 | Atlanta, GA 30318 | 1-800-487-8866 Phone | www.gatfl.gatech.edu

**Disability Connections**  
The Middle Georgia Center  
for Independent Living, Inc.  
1715 College Street  
Macon, GA 31201  
478-741-1425 Phone/TTY  
1-800-743-2117 Phone/TTY  
www.disabilityconnections.com

**Walton Options for Independent Living, Inc.**  
940 Walton Way  
Augusta, GA 30601  
706-724-4062 Phone/TTY  
www.waltonoptions.org

**Center for AT Excellence**  
770-623-3222 Phone  
www.cfatr.com

**FODAC**  
Friends of Disabled Adults and Children  
4800 Lewis Road  
Stone Mountain, GA 30083  
770-491-8054 Phone  
www.fodac.org

**Second LIFE**  
Living Independently for Everyone (LIFE), Inc.  
5105 Peachtree Street, Suite 180-C  
Savannah, GA 31405  
912-920-2414 - 866-948-4842 Phone  
www.2ndlife.org

**The Center for Financial Independence & Innovation (CFII): Alternatives & Innovation Program - Credit Able Financing Program - Credit Able**  
215 W. Ponce de Leon Ave., Suite 600  
Decatur, GA 30030  
404-541-9955 Phone  
www.thecfi.org

**CONTACT US**  
Tools for Life is a program of AMAC Accessibility  
Georgia Institute of Technology | College of Architecture  
512 Maers St. | Suite 250 | Atlanta, Georgia 30318  
www.gatfl.gatech.edu

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Martha Ruff, AT Specialist - martha.ruff@gatfl.gatech.edu

**Increasing Access to and Acquisition of Assistive Technology**

**TOOLS for LIFE**  
Georgia's Assistive Technology Act Program

[www.gatfl.gatech.edu](http://www.gatfl.gatech.edu)

**WHAT IS ASSISTIVE TECHNOLOGY?**  
Assistive Technology (AT) is any item or piece of equipment that is used to increase, maintain or improve the functional capabilities of individuals with disabilities in all aspects of life, including at school, at work, at home and in the community. Assistive Technology ranges from a continuum from low tech to high tech devices or equipment.

Tools for Life works to improve access to and the acquisition of assistive technology in the areas of Education, Employment, Community Living, IT & Telecommunications.

**WHO USES AT?**  
Anyone with a disability that needs assistance to accomplish tasks.

**OUR MISSION**  
Tools for Life increases access to and acquisition of assistive technology devices and assistive technology services for Georgians of all ages and disabilities so they can live, learn, work, and play independently in the communities of their choice.

**AMAC Accessibility Solutions**  
A program of AMAC Accessibility at Georgia Tech

**HOW WE ACCOMPLISH OUR MISSION**

- AT Equipment Lending Libraries** provide a hands-on experience with equipment, and "try before you buy".
- AT Demonstrations and Trainings** allow you to see how equipment works and receive in-depth training so you can make the right choice.
- Online Equipment Exchange Program** allows users to exchange AT devices online by placing a free ad for assistance, sale or trade - [www.photomine.org](http://www.photomine.org)
- Disability & Service Funding Guide** assists in locating funding sources for equipment and services as well as providing sample materials to help with "Managing the Funding Process" - [www.gatfl.gatech.edu](http://www.gatfl.gatech.edu)
- gTRAGE**, Georgia's Online Equipment Exchange Program, allows users to exchange AT devices online by placing a free ad for assistance, sale or trade - [www.photomine.org](http://www.photomine.org)
- CFII** provides loaner devices through participating credit unions for AT, home and vehicle modifications - [www.thecfi.org](http://www.thecfi.org)
- AT Receivers** match needed equipment to underserved populations and those not able to otherwise afford new AT. This is accomplished through a unique distribution model that provides needed assistive technology, computers, durable medical equipment, and home care equipment to seniors, but are members of the Tools for Life Network in Georgia and throughout the United States.
- FODAC** (Friends of Disabled Adults and Children), is a Home Medical Equipment (HME) and Durable Medical Equipment (DME) Reuse Program that collects, refurbishes and redistributes HME/DME, assistive technology and distributes to individuals with disabilities - [www.fodac.org](http://www.fodac.org)

**"Disability is a natural part of the human experience and in no way diminishes the right of individuals to live independently, enjoy self-determination and make choices, benefit from an education, pursue meaningful careers and enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of society in the United States."**  
Public Law 106-364



# Come Visit Us!



Georgia's Assistive Technology Act Program

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## Find Your AT Solutions



### 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.

### ATLANTA ABILITIES EXPO

# Abilities EXPO

MAR  
14

Georgia World Congress  
Center  
Hall C4  
Atlanta, GA

### WEBINARS

FEB  
6

[Choosing Core AT Inventory for  
the Classroom](#)

FEB  
18

[Two Peas in a Pod: IEP  
Objectives & Standards Based  
Instruction](#)

MAR  
6

[TFL & Center for AT Excellence  
TBD](#)

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

### TOOLS FOR LIFE APPFINDER



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



# Tools for Life AT Demo Lab



- Tablets
- Vision Items
- DME
- Communication
- Games
- Software
- Switches
- Keyboards



# Tools for Life AT Demo Lab





# Tools for Life AT Demo Lab



# Tools for Life AT Demo Lab





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# Tools for Life AppFinder

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# TFL AppFinder



Georgia's Assistive Technology Act Program

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Learn More about AT through Hands-On Demonstrations

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

IDEAS CONFERENCE

JUN 2 Epworth by the Sea, St Simons Island

WEBINARS

MAY 28 Georgia's Leadership Model for Increasing Accessible ICT in State Government

JUN 25 Learn More and Do More: Exploring Accessibility and Apps for Android

JUL 30 Position for Work: A Closer Look at Workplace Accommodations & Assessments

Current Webinar Schedule

Webinar Archives

TOOLS FOR LIFE APPFINDER



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

AT ONLINE EXCHANGE



# 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



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

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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](#)

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[Webinar Archives](#)

## APP FINDER

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

## AT ONLINE EXCHANGE

aTRADE eTRADE Georgia's Online



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## 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-promt</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

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

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APR  
18

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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.



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# Making Informed Decisions

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# Begin with the End in Mind!



# Technology Assessment



## SETT

- **S** for the Student/Human
- **E** for the Environment
- **T** for the Tasks
- **T** for the Tools needed for the student to address the tasks.

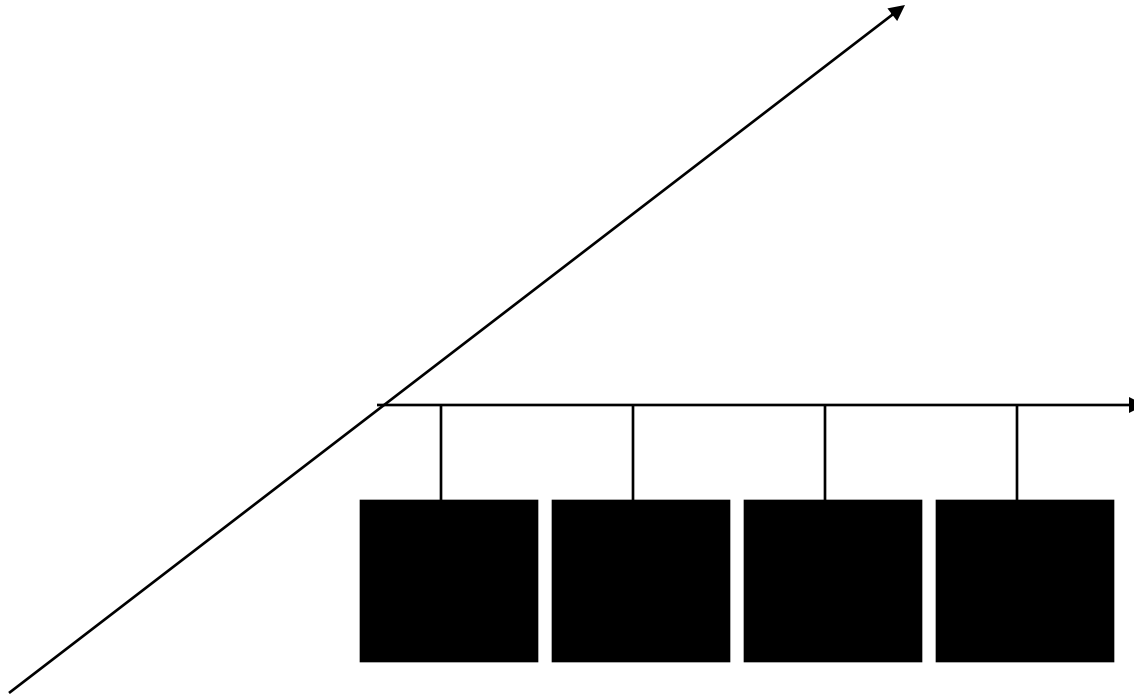
- *Also consider HATT – Cook & Hussey*

Reading			
Directions: 1. Choose student description, environment and task (or fill in your own). 2. Trial corresponding tool/techniques. 3. Indicate if the tool/technique is effective for this student. If tool/technique is effective, continue use. If tool/technique is not effective, stop use. 4. Attach work samples/data collection/notes.			
STUDENT	TASK	TOOLS/TECHNIQUES	EXPLANATION
1. Student is unable to hold reading materials open	Read text books, worksheets	• Book holder (EZ Book Clip*) • Page holder (Page Up*)	
2. Student has difficulty seeing text (visual, letters reversed, too small, etc.)	Read textbooks, worksheets, chalkboard, computer	• Preferential seating. • Enlarge print on copy machine or computer • Reduce number of items on page (spacing) • Magnify text (Magnifying bar*) • Highlight text (Highlighter Tape*) • Reading guide (Reading Helper*) • Highlight text area (Heads up Frame Set*) • Highlight full page of text (Colored Transparencies*)	
3. Student has difficulty reading on a flat (horizontal) surface	Read silently, read in groups, seat work	• Slanted surface (3 ring loose leaf binder, slant board) • Page Holder to see paper vertically (Page Up*)	
4. Student loses place while reading/tracking	Read text books, chalkboard, worksheets (all reading assignments)	• Preferential seating • Isolate text (with plain paper) • Isolate text (Ruler or Reading guide*) • Magnify text (Magnifying bar*) • Reading guide (Reading Helper Set*)	





# Promoting Strengths & Managing Weaknesses



# Comparing Tablets



Property	Android	iOS	MS Windows	Amazon Kindle	Barnes and Noble Nook
Number and variety of Tablets	Over 11,000	iPad and iPad mini	Several	Kindle Fire and Fire HD	Nook HD
Operating System	Android (Jelly bean)	ios7 (Sept 18, 2013)	Microsoft Windows 8	Modified version of Android ICS	Modified version of Android- Microsoft bought 2013
Apps	860,815 (AppBrain.com updated 9/13/13)	900,000 with 375,00 optimized for iPad/mini (mobileburn.com updated June 2013)	104,917 (winbeta.org updated July 4, 2013)	50,000 in Amazon App store also shop in Google Play Store (theverge.com updated August 2013)	10,000 in Barnes and Noble and have access to Google Play store (barnesandnoble.com updated August 2013)
Software Updates	As it becomes available on Google	Apple releases updates	MS releases updates	Amazon releases updates	Barnes and Noble releases updates
Interface	As designed by manufacturer	Icons and widgets designed by Apple	Metro style designed by Microsoft	Modified version of regular Android	Modified version of regular Android

SMARTPEN

STORE

COMMUNITY

DEVELOPERS

SUPPORT

K-12 EDUCATION

COMPANY

home &gt; smartpen &gt; pulse smartpen

1 2 3 4 5 6 7 8

Audio Jack

Microphone

Speaker

USB Connector

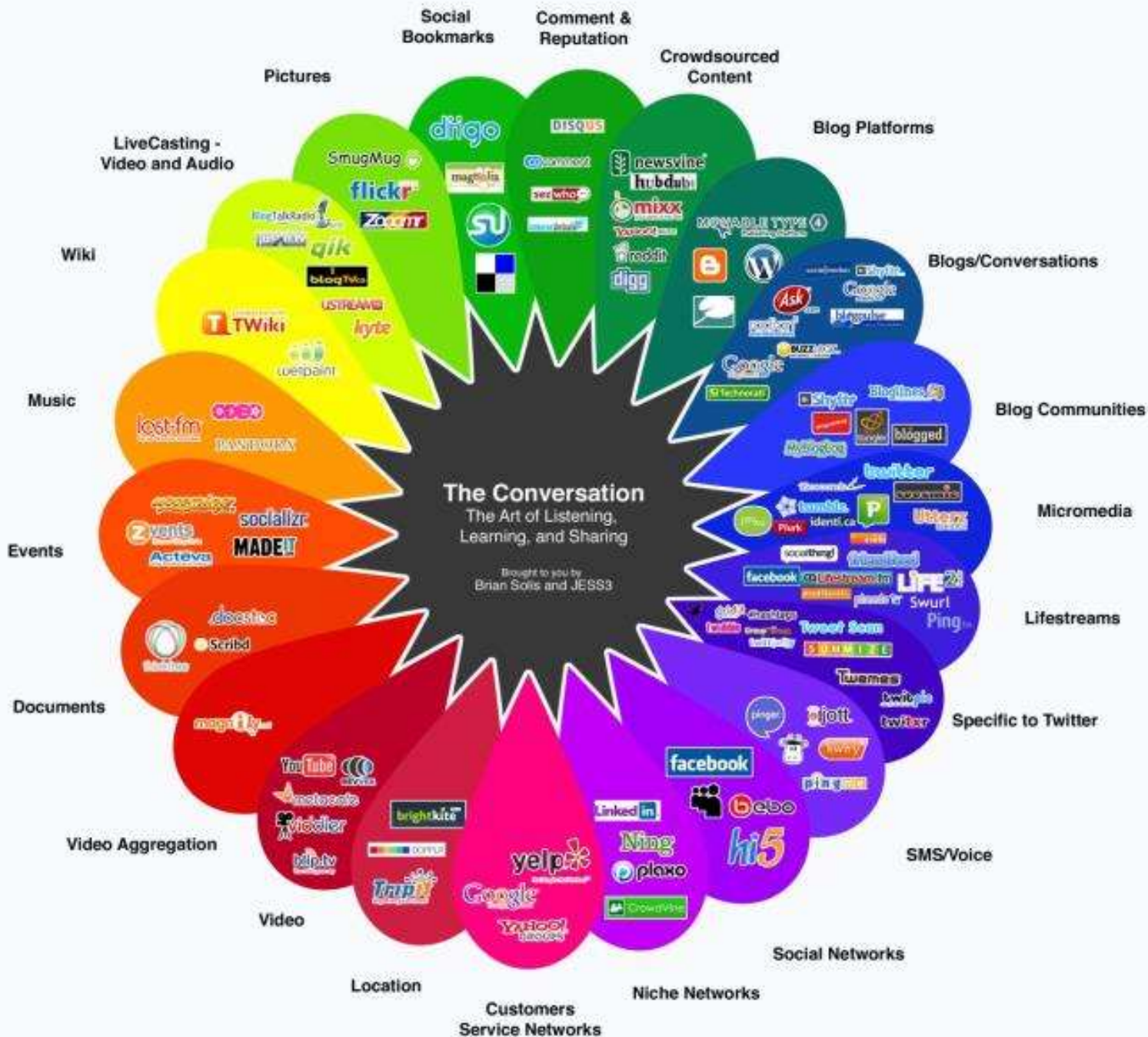
Ink Cartridge

 sound on

## Introducing Pulse™

The Pulse smartpen records and links audio to what you write, so you never miss a word.

To learn more about Pulse's features and how it works, just move your mouse over the smartpen and click for more information.



# Future

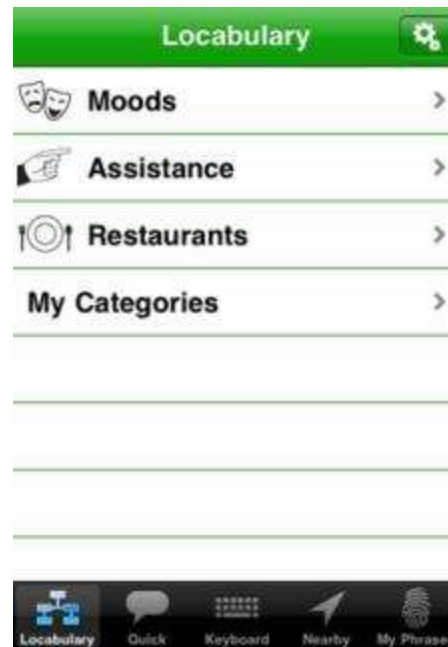
- Evening out the playing field
- More schools Bring Your Own Technology
- The Future is Contextual
  - GPS apps
  - Ads on Internet
  - Smart watches
  - Social Media
    - Proust.com







# Locabulary



- Uses GPS to track user location and suggests appropriate vocabulary based on location
  - ie: McDonald's; starbucks
- A keyboard to type for text-to-speech
- User can tag their own locations and create vocabulary for each location
- Lite version Free; Pro version





# You Don't Have to Pick One



# Be Informed of Your Options



## Buddies!

# Critical Conversations



- **Who?**
- **What?**
- **Where?**
- **How?**
  
- **For students: What do You want to “be” when you grow up?**
  
- **To support these goals, what Assistive Technology solutions and strategies have you considered? Tried? Implemented?**



# Critical Conversations



- **What is Your Strategy to stay current with trends?**
- **How do You access AT for the Consideration Process?**
- **Are You positioned for Learning? Working? Living? Playing?**
- **Are you building Independence or dependence?**







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# Considering Ergonomics

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# What is Ergonomics

- Greek word: Laws of Work
- Science that studies work in various environments, and the tools used to perform tasks in those environments
- **Goal:** match the capabilities and “limitations” of the human body



# When is an evaluation needed



- Proactive/Prevention
- When working posture is affecting performance, attention, and creating pain
- **TIP: Consider incorporating ergonomic principles into the IEP to support educational goals.**
  - Helps with breathing, circulation, attention, concentration & ultimately learning
  - Must consult with a trained professional
  - Educate everyone – student, family, teachers, paraprofessionals



# Poor Sitting Posture

- Inhibits blood flow
- Creates muscle shortening
- Stresses back muscles and compresses spine
- Can inhibit learning
- Compresses diaphragm
  - Affects breathing
  - Voice quality





# Mobile devices - Positioning

Can also contribute to poor posture and repetitive motion injuries

Neck strain, nerve compression



# Mobile devices - Positioning



# Mobile devices - Positioning



# Bamboo Expandable/Adjustable iPad Stand

- Adjustable stand
- Great for individuals who need to change positioning
- Holds iPad
- \$27.00





# Mobile devices



- Should be accessible for type of selection process
  - Direct selection with hands
  - Stylus
  - switches
- Use mounts to improve upper extremity and visual access
- Limit time on devices
  - Encourage physical activity



# Mounts



RAM



RAM



ErgoMart



(RJ Cooper Magic Arm )

# Access - Mouse Devices

- Smaller mouse options can help with control
- May need device that is switch accessible
- Or device that requires no hand or wrist movement & light touch



Cruise Adapted Trackpad  
[www.infogrip.com](http://www.infogrip.com)



Big Track; [www.infogrip.com](http://www.infogrip.com)

# Access - Keyboards

- Larger keys can increase access for students with visual or motor difficulties
- \$70-\$100

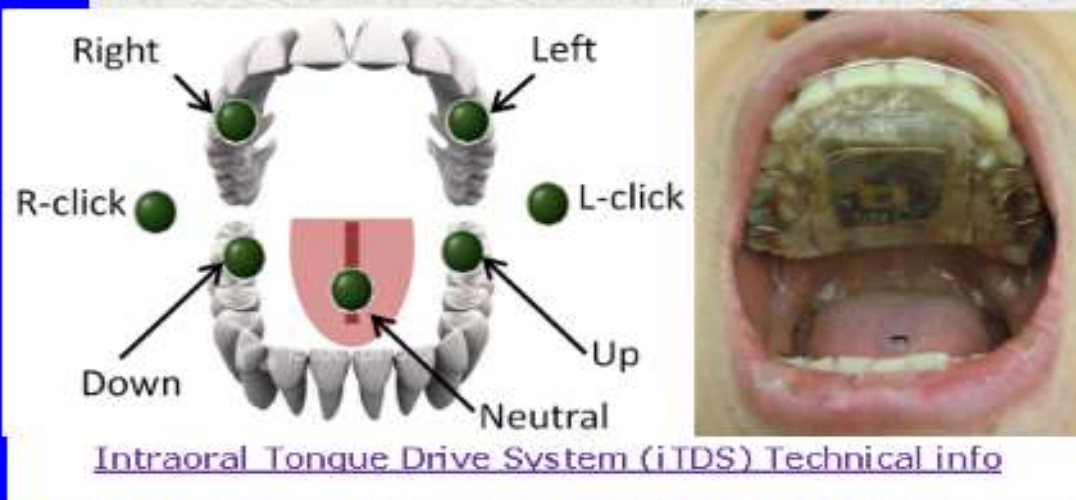
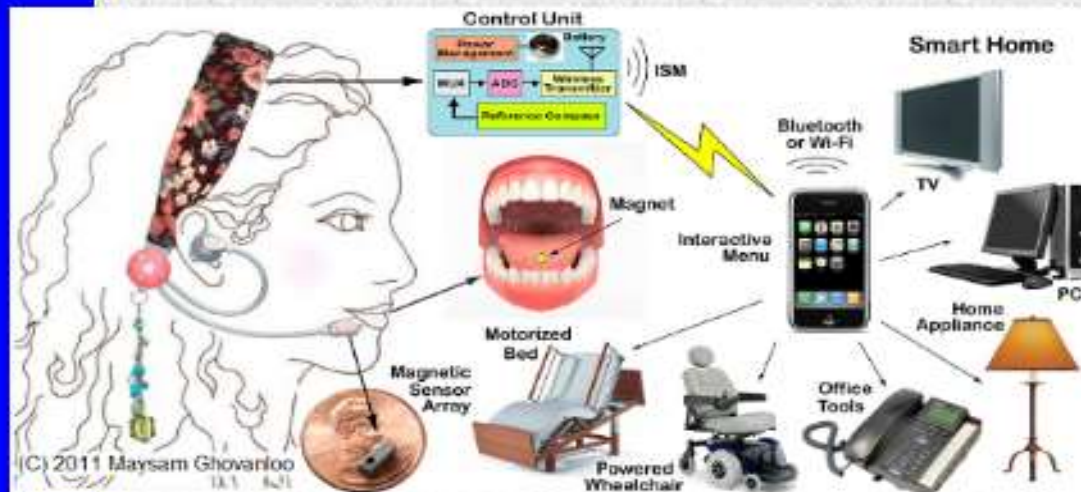








## Tongue Drive System (TDS): A Brain-Tongue-Computer Interface



### Clinical Trial Completed

If you have tetraplegia, live in Atlanta, GA or Chicago, IL, and interested in participating in the upcoming clinical trials, please do contact Dr. Ghovanloo.



da Vinci  
AWARDS

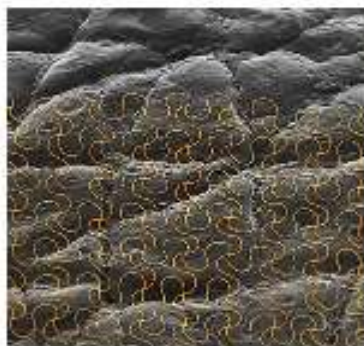
2010 FINALIST



# Electronic Sensors Printed Directly on the Skin

New electronic tattoos could help monitor health during normal daily activities.

By Mike Orcutt on March 13, 2013



**Electronic tattoo.** The image shows a colored micrograph of an ultrathin mesh electronic system mounted on a skin replica.

Taking advantage of recent advances in flexible electronics, researchers have devised a way to "print" devices directly onto the skin so people can wear them for an extended period while performing normal daily activities. Such systems could be used to track health and monitor healing near the skin's surface, as in the case of surgical wounds.

So-called "epidermal electronics" were demonstrated previously in [research](#) from the lab of [John Rogers](#), a materials scientist at the University of Illinois at Urbana-Champaign; the devices consist of ultrathin electrodes, electronics, sensors, and wireless power and communication systems. In theory, they could attach to the skin and record and transmit electrophysiological measurements for medical purposes. These early versions of the technology, which were designed to be applied to a thin, soft elastomer backing, were "fine for an office environment," says Rogers, "but if you wanted to go swimming or take a shower they weren't able to hold up." Now, Rogers and his coworkers have figured out how to print the electronics right on the skin, making the device more durable and rugged.



**Signals.** This device, applied directly to the skin, can record useful medical information.

"What we've found is that you don't even need the elastomer backing," Rogers says. "You can use a rubber stamp to just deliver the ultrathin mesh electronics directly to the surface of the skin." The researchers also found that they could use commercially available "spray-on bandage" products to add a thin protective layer and bond the system to the skin in a "very robust way," he says.

Eliminating the elastomer backing makes the device one-thirtieth as thick, and thus "more conformal to the kind of roughness that's present naturally on the surface of the skin," says Rogers. It can be worn for up to two weeks before the skin's natural exfoliation process causes it to flake off.

During the two weeks that it's attached, the device can measure things like temperature, strain, and the hydration state of the skin, all of which are useful in tracking general health and wellness. One specific application could be to monitor wound healing: If a doctor or nurse attached the system near a surgical wound before the patient left the hospital, it could take measurements and transmit the information wirelessly to the health-care providers.

**More top sites than one else in the world.**

abn.net as of 10/25/13

## WHY IT MATTERS

Wearable electronic devices could be useful for a range of medical applications.


IBM System x Express servers  
From \$From \$1,849 or \$55/mo<sup>1</sup>

[Learn more >](#)





# Environmental Controls

HOMEPRODUCTSAPPSABOUT USBLOGSUPPORTBUYCONTROLHow It Works ▶

VeraLite  
Smart Home Controller


Home / Controllers / VeraLite

DescriptionFeatures & SpecsWarranty & Support


## YOUR NEW ASSISTANT

HOME CONTROL DOESN'T HAVE TO BE COMPLICATED OR EXPENSIVE, SO WE CAME UP WITH THE VERALITE SMART CONTROLLER, WHICH IS SIMPLE AND INEXPENSIVE. IT MAY BE SMALL, BUT ITS CAPABLE OF BIG THINGS!

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VeraLite gives you easy control over lights, cameras, thermostats, door locks, alarm systems and more. Plus you easily can add intelligence to almost anything electronic in your home, and VeraLite can control them too. All the smart home benefits you've been looking for are right here in this easy, inexpensive add-on to your home network.



**AN AMAZING AMOUNT OF SMART TECHNOLOGY THAT FITS IN THE PALM OF YOUR HAND.**

VeraLite gives you easy control over lights, cameras, thermostats, door locks, alarm systems and more.

**ONLY \$179.95**

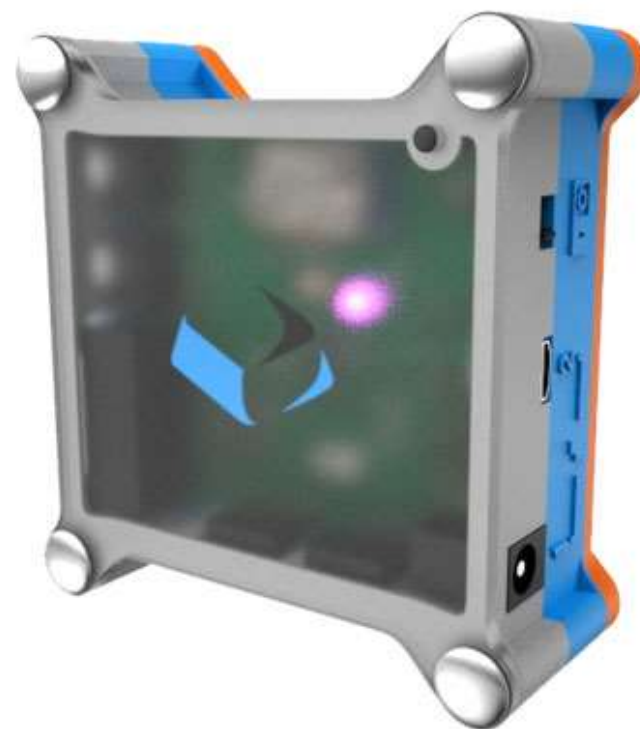
WHAT'S IN THE BOX 

# TFL Environmental Control Lab



# Tecla Shield

- Wireless device that controls smartphones and tablets using your external switches or the driver controls of your power wheelchair
- The only switch interface that works with both iOS® and Android™ mobile devices.







## Products / New Products

ASL brings innovative products to our clients! We are here to help each client reach their full potential – our team creates products and designs as a direct result of the needs of those we serve. Our goal has always been independence and equal rights for those we work with....

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ASL 138 Extremity Control Joystick



Specialty Products & Adaptors

### Electronic Switches

200 Series

ASL 215 Round Proximity Sensor with Mono Port and 24 Volt Connector



Specialty Products & Adaptors

### Electronic Switches

200 Series

ASL 215 Round Proximity Sensor 3 Pin



Specialty Products & Adaptors

# HouseMate ECU for Android Configurator



- Enables a person with no arm movement or hand dexterity to operate everything in their environment wherever they go
- 100% of an Android Tablet/phone independently
- Push a button, blow a puff of air, bite, turn your head, raise an eyebrow or any other slight movement, even chin control joystick
- New Advanced Version includes an HID mouse interface for 100% visual control
- Makes web browsing fully accessible with a simple switch

# VGo Telepresence Robot

- Enables a person to replicate themselves in a distant location and have the freedom to move around as if they were physically there
- Reduces travel costs
- School
- Hospital
- Work from home



## Solutions

- Overview
- Products and Services
- Benefits
- Applications
  - Healthcare
  - Large Enterprise
  - Manufacturing
  - Education
  - SMB

## Quick Links

**Request Info**  
**Drive a VGo**  
**Latest VGo News**  
**Download VGo App**

## People with Disabilities in the Work Place

Sector: **Business**



VGo increases productivity and effectiveness while lowering costs by enabling a person to get to a location instantly and easily. VGo is not designed as a replacement for in-person interaction but rather as the next best alternative to "being" in the workplace. VGo also eliminates the deficiencies associated with other video solutions that are locked to a TV or computer monitor by providing 100% remote controlled mobility. [delete that](#)

In addition to "being" at work from home, VGo can help people who can get to the workplace, but who cannot practically move about the facility or campus. A VGo can be used to enable a person to move around in one part of the facility while they are physically in another.

### The benefits of using VGo in the workplace include

- Getting to places previously inaccessible increases opportunities
- Freedom of movement increases personal interaction with others
- Quality of life improvements by expanding the work and social environments
- Costs can be reduced by lowering or eliminating select transportation expenses, and by communications and speeding decision making





# Kubi

- Telepresence
- Uses a tablet
- Uses free conference sites
  - Google Hangout
  - FaceTime
  - Skype





# **kubi**

## Be there with your team

LEARN MORE



## Take charge of your video presence

**kubi** gives tablets remote pan and tilt controls, so you can see and interact with people during a video call.





---

Let's begin by  
Diving beneath  
Surface...

---

# 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



# Microsoft Surface



http://www.microsoftstore.com/store/msusa/en\_US/...



Top 10 Best Tablets Compariso...



On sale: Surface, PCs, Xbox ...



Amazon.com : Samsung Galax...

File Edit View Favorites Tools Help

Great prices on tablets [Shop all tablet deals](#)



**Save up to \$70.00**

Surface



- The original tablet at a great price
- Built-in kickstand
- Office Home & Student 2013 RT
- Up to 8 hours battery life



**Save \$300.00**

Surface Pro



- The laptop in tablet form
- Built-in kickstand
- Surface Pen included
- Huge savings while supplies last



**Save \$80.00**

Toshiba Encore WT8-A32M  
Touchscreen Tablet



- 8-inch HD touchscreen
- Intel Atom Z3740
- 2GB memory/32GB eMMC
- Up to 7 hours battery life



**Save \$50.00**

Lenovo ThinkPad 8 Touchscreen



- 8.3-inch Full HD display
- Intel Atom Z3770
- 2GB memory/64GB eMMC
- Up to 8 hours battery life

# Surface Pro 3

- June 2014
- 12 inch screen
- Up to 9 hours of web browsing
- Windows 8.1
- Surface pen
- Multi positioning kickstand
- Palm Block Technology
- Install Software
- Starting at \$799





# Surface RT and Pro



- 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





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# Exploring the Surface Accessibility & Devices

---

# Accessibility of Surface



- Magnetic Attachments
  - Charger and keyboards
- Uses Windows 8
  - Ease of Access
- Narrator
- Magnifier
- On-Screen Keyboard
- Windows Speech Recognition
- Picture Password



# Surface Tiles

- Used to launch all apps
- 2 size
  - Small and large
- Live tiles
  - Quick short bit of information
  - Can be turned off/on
- Pin on Start screen
- Move Tiles to different sections
- Name the group of tiles



# Charms

- Provide easy access to setting and tools
- Search Charm
  - Quickly find items anywhere on the tablet
- Share Charm
  - Instant access to ways by which can share current content
- Devices Charm
- Settings Charm
- Devices Charm
  - Ways to connect tablet to other devices
- Settings Charm
  - Quickly access commonly used settings
- Show Charms
  - Swipe inward from right
- Hide Charms
  - Repeat above gesture
  - Swipe towards right
  - Tap the screen

# Snapping

- Having 2 or 3 apps open on the screen at the same time
- With an open app, drag a finger from the top of a screen; app will pull away and a dividing bar will appear
- Drag to the left side to bring up a previous app





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# Our Favorite Surface Apps

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# Surface Apps: OneNote



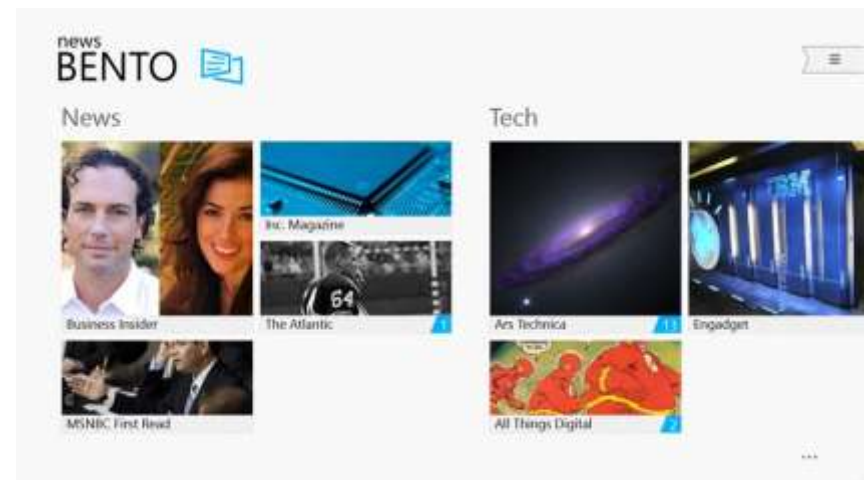
- Save all your notes in the cloud
  - All devices
- Share for viewing and editing
- Save any web page to OneNote and view it later, online or offline
- Send emails to [me@onenote.com](mailto:me@onenote.com)
  - Put into your notebook.
- Take photos of documents and whiteboards



# Surface Apps: News Bento



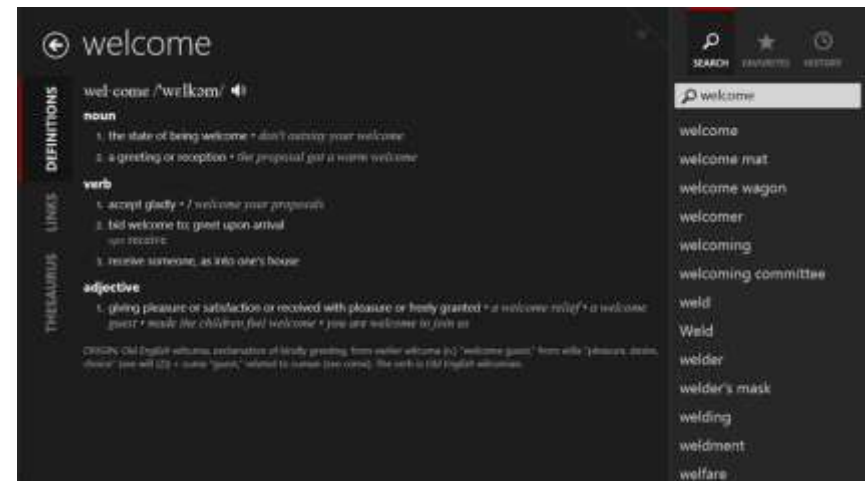
- Aggregate all the news you care about in one spot
- Personalize home screen
- All the news in one spot
- Free



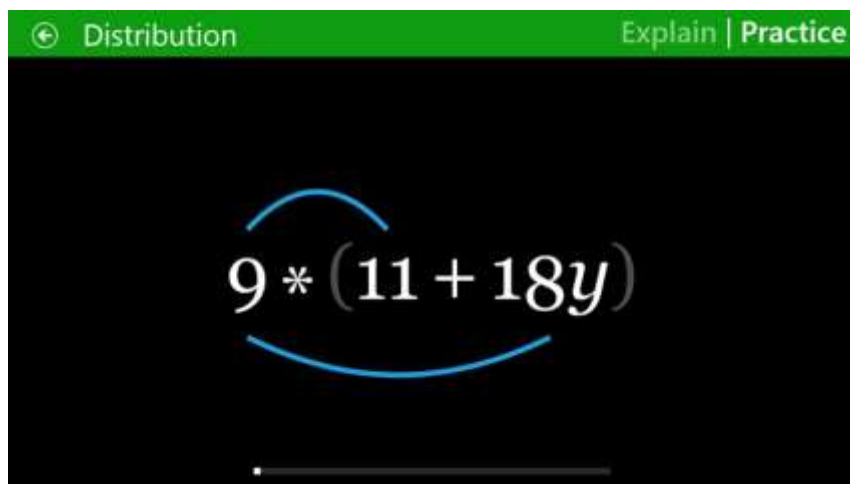
# Surface Apps: WordBook



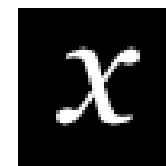
- Dictionary App
- 120,000 pronunciation guides
- 150,000 real human voice audios
- Built-in thesaurus and word links
- Browser-like content navigation with ability to tap on any word to view its definition



# Surface Apps: Algebra Touch



- Interactive lessons
- Complete random problems
- Create own problems
- Touch based techniques
- \$2.99



# Surface Apps: TalkingTiles



- Create personalized pages for communication
- Multiple device support include Apple, Amazon Kindle, Android
- Add images and pictures from over 50,000 symbols and words
- Use own pictures
- 100 different accents and voices
- Free





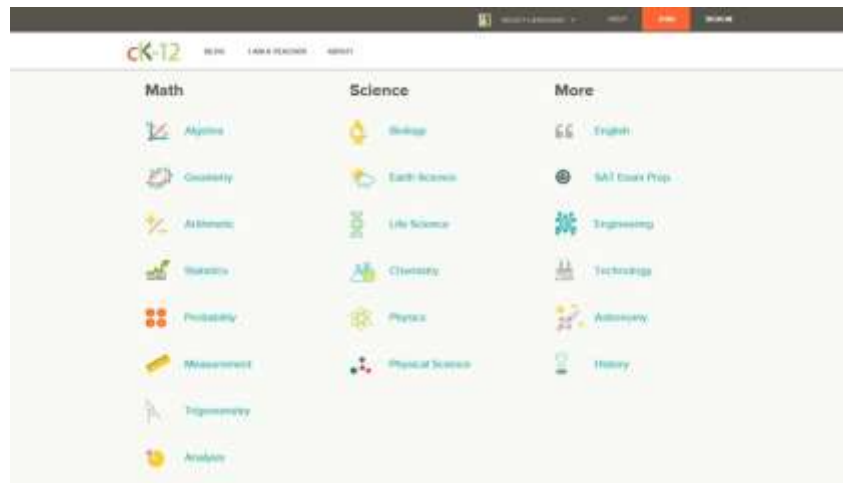
# Surface Apps: Dragon Notes



- \$19.99
  - Free trial
- Tap to record your notes
- Share your notes
- Notes sorted by date/time
- Search the web



# Surface App: CK-12



- Free
- 5,000 Math and Science concepts
- Common Core aligned digital content
- Learn at own pace
- Multiple learning styles
  - Video, reading, interactive objects





---

# Surface Resources

---

# Surface/ Windows 8 Resources



- <http://www.microsoft.com/enable/products/windows8/>
- <http://www.microsoft.com/enable/training/windows8/>
- <http://windows.microsoft.com/en-us/windows-8/make-pc-easier-use>
- <http://www.microsoft.com/surface/en-us/support/personalization-and-ease-of-access/ease-of-access-features>





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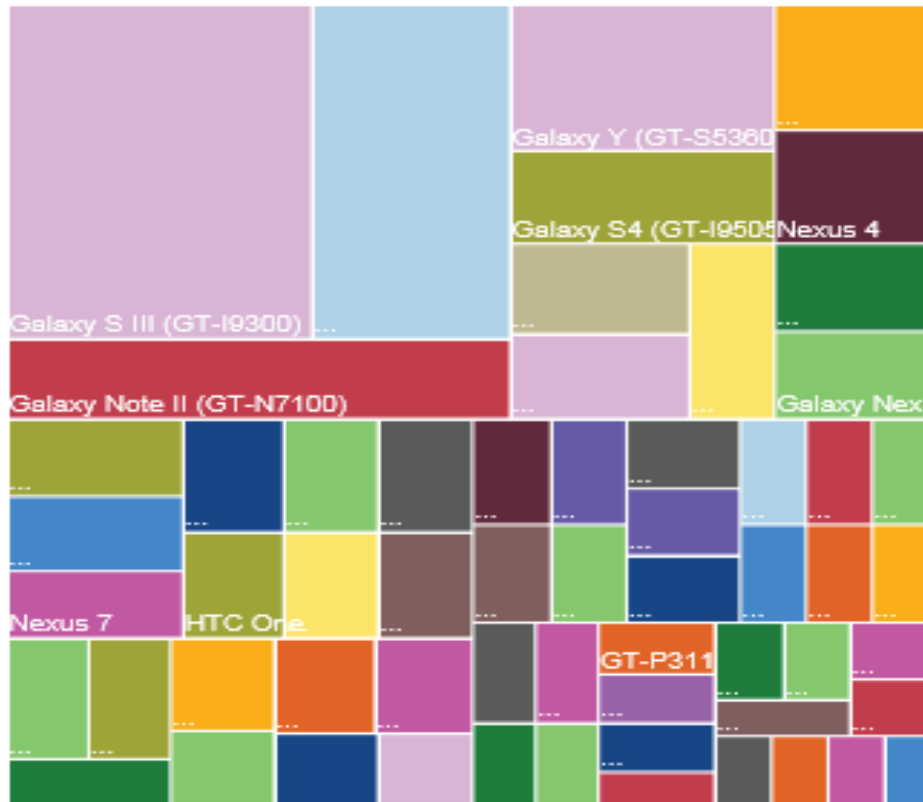
# A Closer Look at Android

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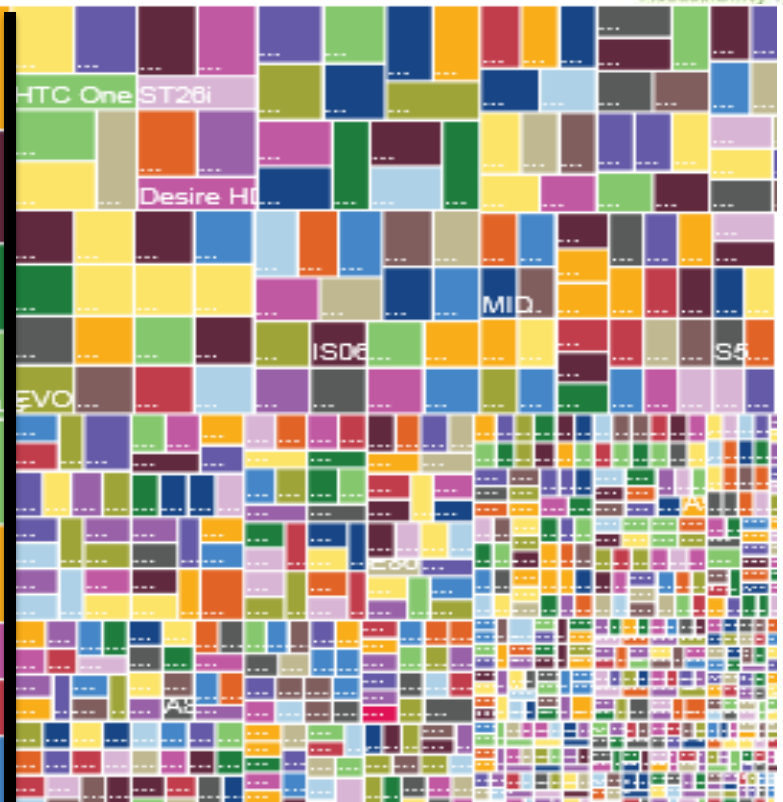




# Android Device Fragmentation



July 2012: 3,997  
Different Android Devices



July 2013: 11,868  
Different Android Devices

# What Is Android?



- Android is an operating system based on the Linux kernel with a user interface based on direct manipulation, designed primarily for touchscreen mobile devices such as smartphones and tablet computers, using touch inputs, that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects, and a virtual keyboard. Despite being primarily designed for touchscreen input, it also has been used in televisions, games consoles, digital cameras, and other electronics.
- As of 2011, Android has the largest installed base of any mobile OS and as of 2013, its devices also sell more than Windows, iOS and Mac OS devices combined.
- As of July 2013 the Google Play store has had over 1 million Android apps published, and over 50 billion apps downloaded.

Wikipedia



# Android is Popular



- Android is popular with technology companies which require a ready-made, low-cost and customizable operating system for high-tech devices. Android's open nature has encouraged a large community of developers and enthusiasts to use the open-source code as a foundation for community-driven projects, which add new features for users.

Wikipedia



# Version History



- The version history of the Android mobile operating system began with the release of the Android beta in November 2007. The first commercial version, Android 1.0, was released in September 2008.
- Since April 2009, Android versions have been developed under a confectionery-themed code name and released in alphabetical order:

Cupcake (1.5)

Doughnut (1.6)

Eclair (2.0–2.1)

Froyo (2.2–2.2.3)

Gingerbread (2.3–2.3.7)

Honeycomb (3.0–3.2.6)

Ice Cream Sandwich (4.0–4.0.4)

Jelly Bean (4.1–4.3)

KitKat (4.4–4.4.2)



# Version History

## ANDROID



@ijooH



# Facts about Android



- The Android operating system was first developed by Google in 2008 in response to Apple's iOS, which dominated the smartphone market at the time.
- Since 2008, the Android OS has proven itself a worthy competitor and officially took over as the market leader in the fourth quarter of 2010.
- The number of new Android devices being activated each month continues to climb at a staggering rate.

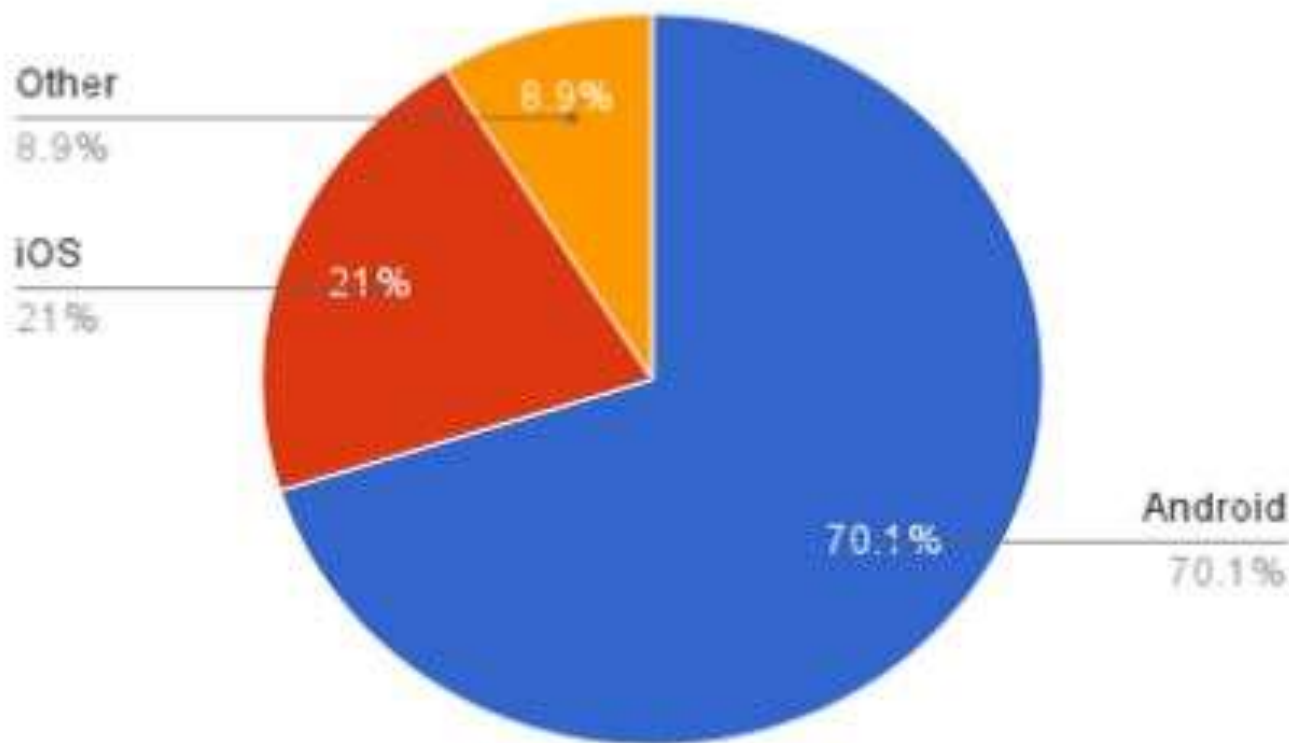


# The World's Most Popular Mobile OS

- Android powers more than a billion phones and tablets around the world.
- It's customizable, yet easy to use, and since it's made by Google, it works seamlessly with all your favorite Google apps.

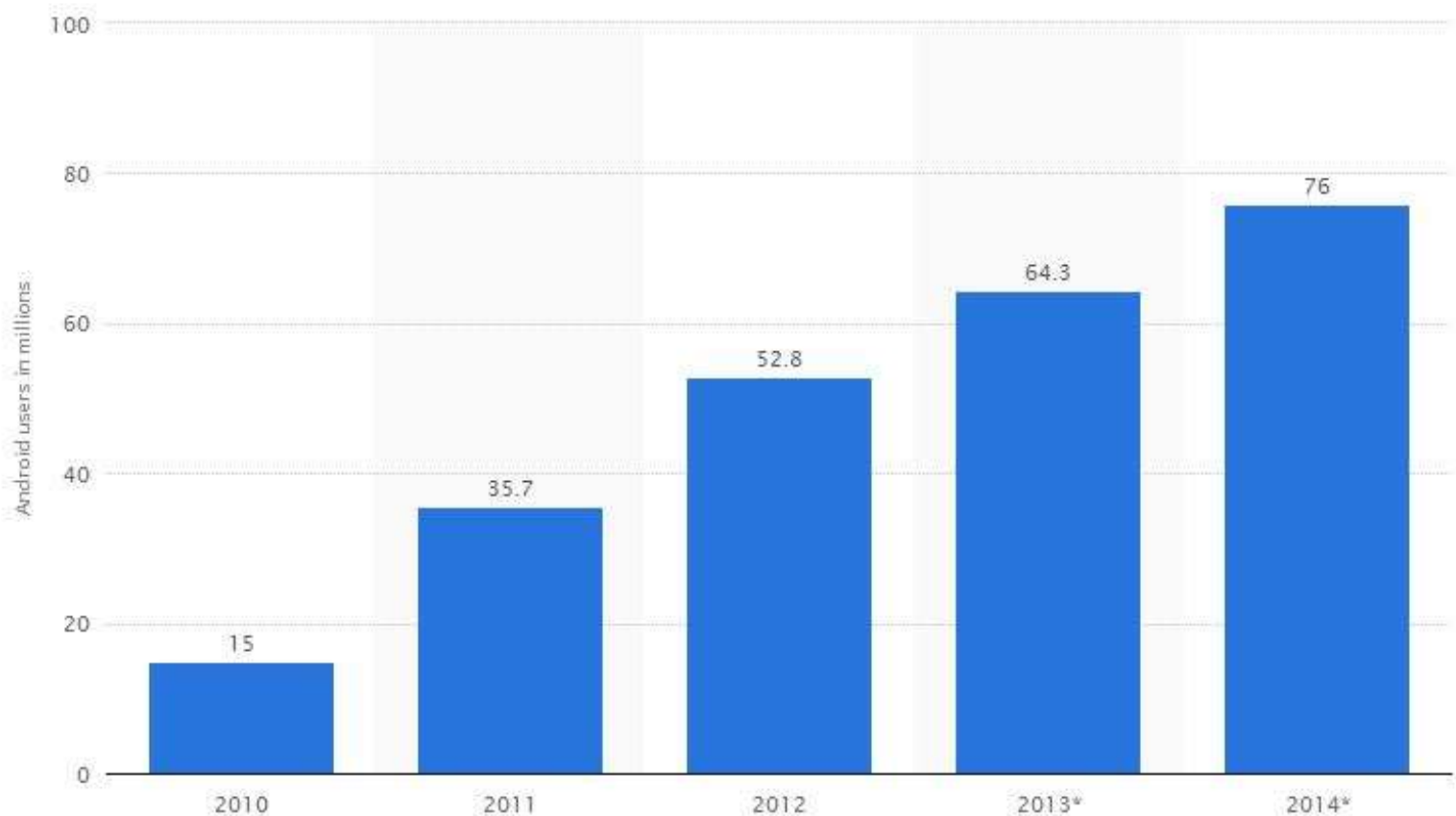


# Android is a Mobile Powerhouse



# Statistics on Android Users

Number of Android smartphone users in the United States from 2010 to 2014 (in millions)



# Smartphone Users Pick Android



47% of People Use Android Smartphones

30% of People Use iPhones

23% Use Other Smartphones





# What is Google Play?



- Google Play, formerly the Android Market, is a digital distribution platform for applications for the Android operating system and an online electronics and digital media store, operated by Google. The service allows users to browse and download applications developed with the Android SDK and published through Google, as well as music, magazines, books, movies, and television programs.
- Applications are available through Google Play either free of charge or at a cost. They can be downloaded directly to an Android or Google TV device through the Play Store mobile app, or by deploying the application to a device from the Google Play website.



# Google Play

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## MUSIC, MOVIES, BOOKS, APPS AND MORE

on Android and the web.



### DISCOVER

Your favorites and more of what you love, now all in one place.



### ACCESS

Your stuff is everywhere you are, on the web and on your Android devices.



### ENJOY

No more hassles or waiting, just press play; it's all there, ready when you are.



## All your entertainment together

All the stuff you love is finally in one place. On Google Play you can choose from over a million apps and games, browse the world's largest eBookstore, discover millions of songs, watch the latest and greatest movies and TV shows, and even flip through your favorite magazines.

Before you decide, sample a song or book for free, view ratings, user reviews, screenshots, or watch a movie trailer. With Google

# Google Glass

- Wearable Technology
- Bluetooth Connection
- Navigate
- Make a Call
- Send a Message
- Take a Picture or Video
- Get the News
- Search
- Google Play Music
- Google Now
- Be Social
- Internal Compass
- \$1500



# Samsung Galaxy Tab 3



- 7 inch screen
- Open one screen at a time
- Camera for photos and videos
- Ability to organize apps
- Similar to the Galaxy smartphone
- Starts at \$179

# Samsung Galaxy Note 8.4



- Built in accessibility features
- Multi Windows
  - 2 Screens
- Customize dashboards
- 8.4 inch display
- 10 hrs Internet time
- e- Meeting
  - Share screen
- Starting at \$349



# Samsung Galaxy S4

- Air Gesture
  - sensor at the top of the device, allows you to answer calls just by waving your hand
  - browse through photo albums and web browser tabs by using left and right hand gestures
- Air View
  - preview photos in an album, for example, by hovering any one of your fingers a few centimeters above the screen
- Smart Stay and Smart Scroll
  - Uses your eyes
  - Pauses when you look away or continues to scroll following your eyes



# Google Nexus Tablet



- 7 inch screen
- Up to 9 hours of HD video playback
- 10 hours of web browsing
- Made to Share
  - Customize space and personal homepage
- Starts at \$229

# Kindle Fire HD/HDX

- eBook Reader and mobile tablet
- Front facing camera
- Access to Amazon apps
- Free cloud storage for Amazon purchases
- Purchase Apps
- 7inch or 8.9 inch screen
- 'Mayday' button HDX
- Starts at \$139- HD
- \$199- HDX



# Kindle Fire HD/HDX

- Download Books and Movies
- Access to Amazon
- Front Facing Camera
  - Skype
- Can Read Books out loud
  - If book has this feature enabled
  - Check on product details page
- Whispersync for Voice
- Immersion Reading
- Mayday Button
- Can Change:
  - Font
  - Line Spacing
  - Text Size
  - Background color



# Layout of the Kindle Fire HD

- External Speakers
- Power Button
- Charger
- Headphone Jack







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# Exploring Android Accessibility & Devices

---

# Easy Mode

- In Settings under Home Screen Mode
- Has three home screens
- The main home screen has non removable widgets for the time, date, and weather. You will also find six apps to choose from that have much larger icons
- The left home screen is dedicated to calling
  - Can select up to nine contacts
- The right home screen includes 9 apps that you can customize to whatever you want
- Still have an app drawer
  - All apps are spelled out and in alphabetical order.
- The settings menu and camera interface is also simplified



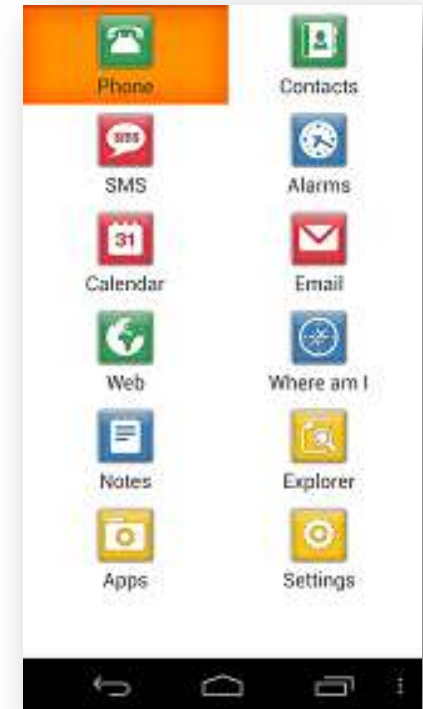
# Android Tablets Accessibility

- Accessibility features are not all built in
  - Talkback, Kickback, and Soundback
  - Gesture Feature in Jellybean
  - Eyes - free keyboard
  - IDEAL Web Reader for internet
- What operation system is tablet running
  - KitKat, Jellybean, Ice cream sandwich, Honeycomb, Gingerbread
- Google Play Store to buy apps
  - Must have Gmail address
  - Can use Amazon gift cards
- Customize features
  - Pick from several kinds of keyboards



# 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)



## android Access: Accessible Android apps and news for the Blind and Visually Impaired

Welcome to Android Access, your portal to information on accessible Android apps and programs for the blind and visually impaired. We're excited to be a part of the Android community, and look forward to your comments, feedback, and submissions. If you're new to Android, check out our [Getting Started](#) page. Keep up to date with the latest reviews and news by [following @AndroidAccess on Twitter](#).

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- [Travel & Local \(9\)](#)



# Accessible Android

## Get Maximum Eyes-Free Use from Your Android Phone

To read these pages most efficiently with a screen reader, use heading level navigation.

- At Level 2 are post dates, archives, subscription info, recent tweets, Good Stuff (a collection of pages), and More Information on Android and Accessibility (a compilation of related links).
- At Level 3 are post topics and subtopics.

For a chronological list of posts, check the archive dropdown list, or use the Topic List link under the Good Stuff heading.

To submit a post, contact [AccessAna](#).

Thursday, September 8, 2011

## How can I better enjoy my HTC EVO Shift 4G With Sense UI and Gingerbread?

Contributed by Alex Hiironen

The HTC EVO Shift 4G from Sprint is an excellent Android phone, with hardware keyboard, physical navigational controller, and decent specs. One of its drawbacks, however, is the HTC Sense user interface. The Sense UI affects fewer of the phone's applications than [the Touchwiz overlay on some Samsung phones](#), but Sense does require users to find some extra know-how or workarounds for certain things: the accessibility option in settings, the unlock gestures, the stock launcher, the call answer/reject/end gestures, the in-call screen, and the Contacts, Messaging, Alarms, and camera apps. Don't worry, most of this is still usable.

In this post, I explain how to work around the accessibility glitches in the HTC Sense

Archive: Older Posts Are Revised to Reflect Changes in the Technology

Archive: Older Posts Are Revised to Reflect Changes in the Technology ▾

Thanks Android Community

 [Access Ana](#)

I have a new Android phone, which I really like, but learning to use it has been slow going. The Eyes-Free community (both users and developers) has been very supportive. My contribution to it is to organize all their great information into articles and tutorials so that other blind and visually impaired users can enjoy their Android smartphones as much as I do mine.

## Discussions

View: [Topic list](#), [Topic summary](#)

Topics **1 - 10** of **2443** [Older >](#)

**You cannot post messages because only members can post, and you are not currently a member.**

**Description:** Announcements and discussions about the Eyes-Free project whose focus is development of applications that provide eyes-free access to the Android platform.

### ★ [Samsung Gravity smart t-mobile](#)

I saw a tweet about this phone earlier. It's been announced but not yet released. The estimated release date is 06/08/2011. This phone has a slide out keyboard and is supposed to be available for under \$100 with a contract. I didn't see if it was 4g, but it might be a phone of interest to some of you.... [more >](#)

By **Gordon** - 3:19am - [1 new of 1 message](#) - [Report as spam](#)

### ★ [The vOICe and Color Identification](#)

I'm using the vOICe to identify colors. Generally speaking, it does a good job though it's better at giving me color approximations than precise colors. for example, it says that my aqua bedspread, sky blue throw pillow and green blanky are all cyan, and it says a canary yellow box is green or yellow green. I remember colors and the exercise of combining red, yellow, and blue in kindergarten well enough to understand that blue, aqua, and green are all on a continuum and that certain yellows (maybe not canary) can kind of sort of look green in certain lighting, so what the vOICe does makes sense to me.... [more >](#)

By **Ana G** - Jun 2 - [2 new of 2 messages](#) - [Report as spam](#)

### ★ [Seesmic](#)

I have installed seesmic and added my twitter account. I don't see a way to add any more accounts. I wanted to add my facebook account. Is anyone else usingseesmic? How do you aadd more accounts? Thanks for any help.

By **Terra Syslo** - Jun 2 - [1 new of 1 message](#) - [Report as spam](#)

### ★ [List of accessible apps?](#)

Is there a list of apps that are known to be accessible or are themselves accessibility apps? I'm trying to put together a list of things I'll need to download when the time comes. Chris

By **Christopher Bartlett** - Jun 2 - [3 new of 3 messages](#) - [Report as spam](#)

### ★ [Calculator](#)

Ok I've attempted to use several different calculators, but no luck. Can someone please let me know which one I need and maybe

## Home

## Discussions

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[www.LaptopZ.com](#)

[Nexus S by Google](#)

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Leanest, Meanest Android P  
Yet.  
[www.google.com/nexus](#)

[Samsung Series 9 Noteboo](#)

13" Notebooks W/ Intel  
Technology.  
Visit Official Site For Specs!  
[samsung.com/series9](#)

[See your message here](#)

## Group info

**Language:** English

**Group categories:** *Not categorized*

[More group info >](#)



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# Our Favorite Android Apps

---



# Dragon for Android

## Dragon Mobile Assistant

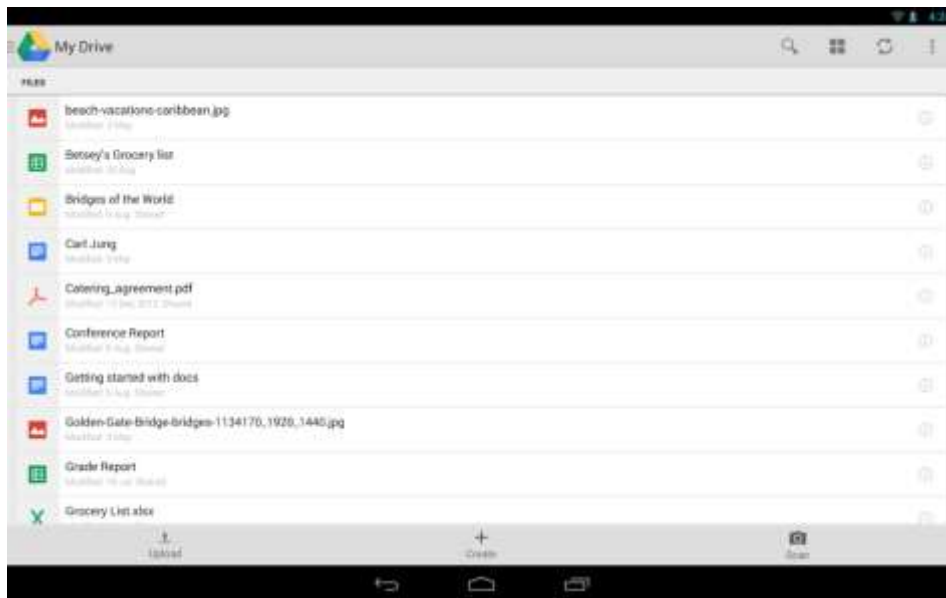
- Speak to send a text, email, or call
- Set reminders
- Search the Internet
- Program to listen only to your voice
- Free

## Swype

- Alternate Keyboard
- Draw from one letter to the other without lifting a finger
- Reduces finger movement/fatigue



# Google Drive

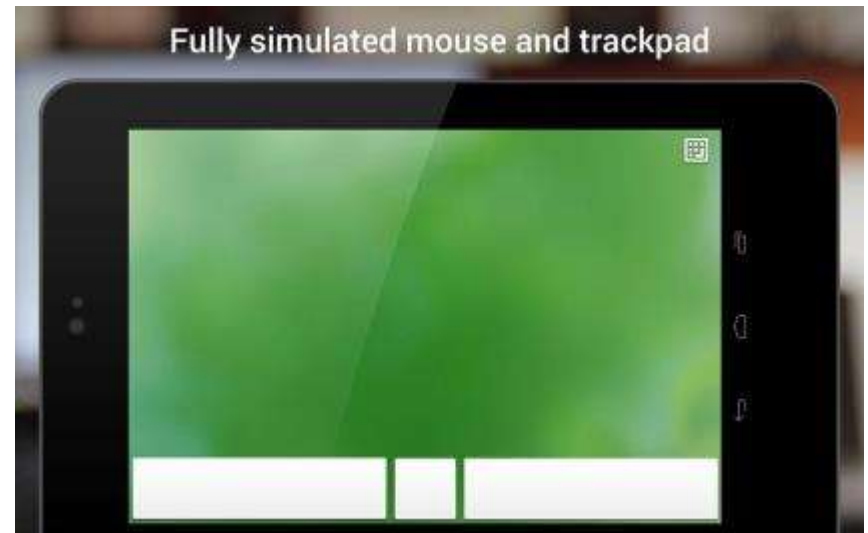


- Upload photos, videos, documents, and other files and access wherever you go
- Share photos and files
- Make files available off-line
- Scan documents with device camera
- Up to 15 GB of storage
- Free



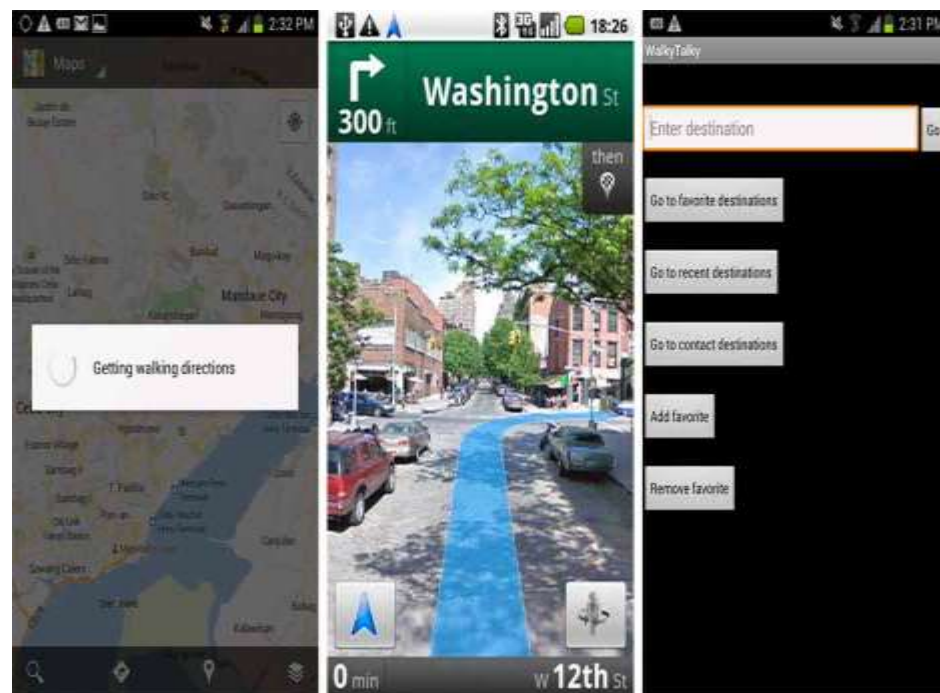
# Remote Mouse

- Turns your mobile phone or tablet into a wireless remote control for your computer
- Fully simulated mouse
- Magic trackpad
- Multi touch Gestures
- Landscape mode



# WalkyTalky

- Accessible navigation aid
- Periodically updates the status bar with your current location to the nearest street address
- Ability to input a destination and directly launch Maps Navigation in Walking directions mode
- Need to enable GPS when running this app
- FREE



# Wolfram Alpha Apps



- Wolfram Software
- Multiple Apps
  - Algebra
  - Calculus
  - Fractions
  - Physics
- Varies in Costs
- Solve problems on the spot
- Shows solutions step-by-step

Results

$x = \pm 1$

$x = \pm(2\sqrt{2}) \approx \pm 2.8284$

Possible intermediate steps

Solve for  $x$ :

$$x^4 - 9x^2 + 8 = 0$$

Substitute  $y = x^2$ :

$$y^2 - 9y + 8 = 0$$

The left hand side factors into a product with two terms:

$$(y - 8)(y - 1) = 0$$

Split into two equations:

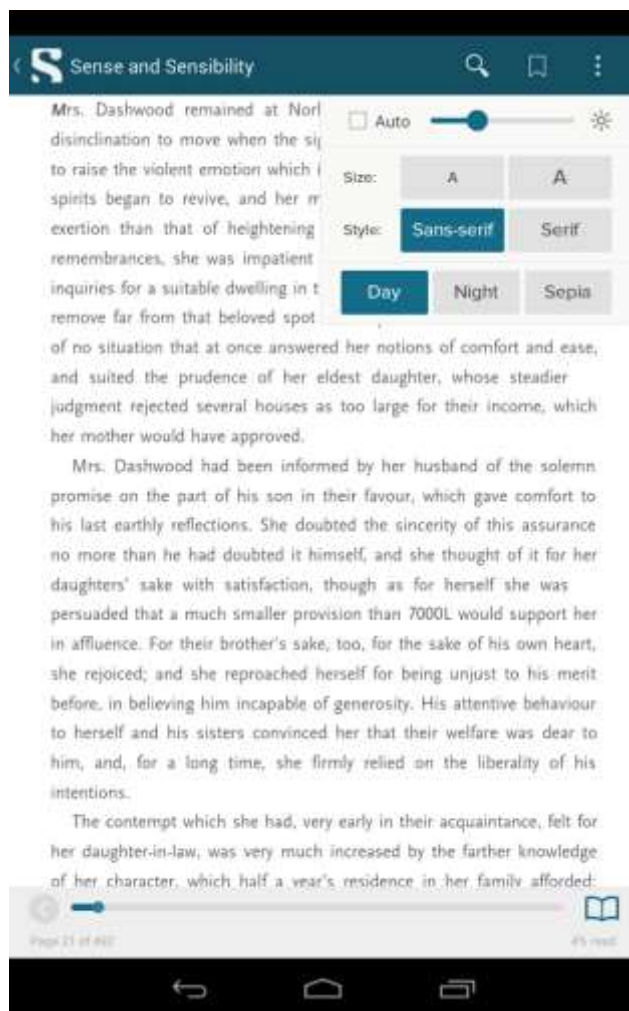
$$y - 8 = 0 \text{ or } y - 1 = 0$$

Add 8 to both sides:

$$y = 8 \text{ or } y - 1 = 0$$

Powered by WolframAlpha © 2013



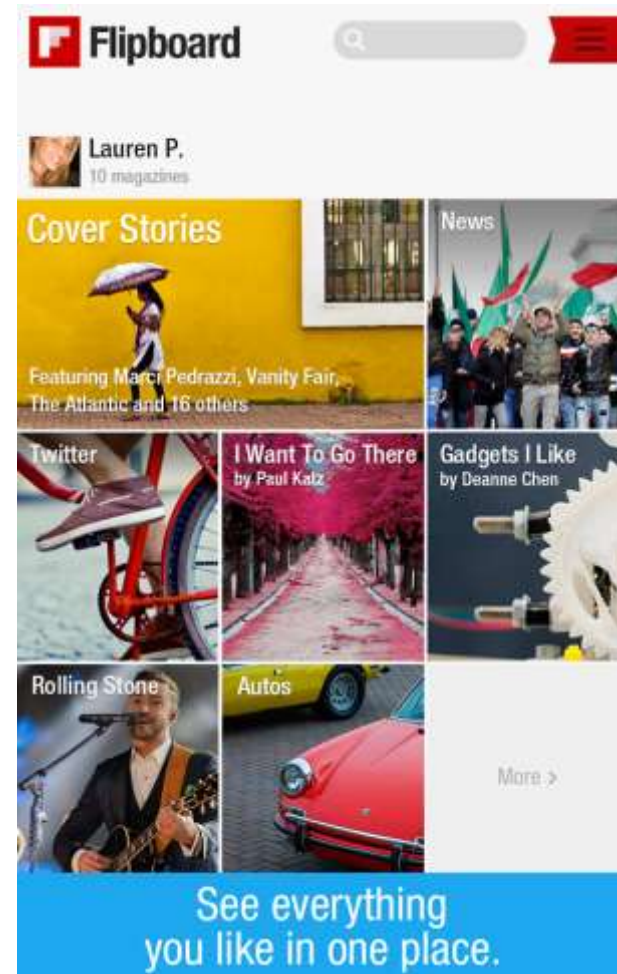


- Largest digital library with over 80 million users.
- Unlimited access to over 100,000 books for just \$8.99 / month - with a one month free trial
  - Unlimited reads
- Over 900 publishers, including NYT bestsellers, literary classics, groundbreaking non-fiction, and reader favorites in every genre
- World's largest digital document collection, with millions of user-uploaded written works
- Make notes and highlight text as you read
- Zoom in on images

# Flipboard: Your News Magazine



- Personal magazine
- Pick a few interests and tap any of the tiles to begin flipping
- Add blogs and publications
- Connect Flipboard to up to 12 social networks





# General Science



- Contains the multiple choice questions
- Free
- Question about following concepts,
  - Biology
  - Chemistry
  - Elements
  - Inventions
  - Nuclear Energy
  - Physics
  - Units & Measurements

A screenshot of a mobile application interface. At the top, there's a status bar with icons for signal, battery, and time (9:42 PM). Below that, a header bar says 'Inventions : Question-1 / 50'. The main text area contains a question: 'Q-1. Who had an explosive idea and first patented DYNAMITE?' followed by the answer 'Ans: Option B' and an explanation: 'Explanation: Alfred Noble patented dynamite in 1876. Nobel left \$9 million in his will to be used as awards for people whose work benefit humanity - The Nobel Peace Prize etc.' Below the explanation are four buttons for multiple-choice options: 'A. J. R. Gluber', 'B. A. Nobel' (which is highlighted in green), 'C. G. Fawks', and 'D. W. Bickford'. At the bottom, there are three buttons: 'Previous', 'Show Answer', and 'Next'.

# ColorNote Notepad

## Notes To Do



- Simple notepad app
- Organize notes by color
- Checklist for To do list & Shopping list
- Checklist to get things done
- Organize your schedule in calendar
- Password Lock note
- Free





Please listen to the following quick tips on how to use this reader. You can press the menu button to access the main menu. From there, among other features, you may select "Read to Me" to have the book read to you

While listening to a book, you may press the previous button to go back a paragraph, the play/pause button to pause or resume playback, the next button to go forward a paragraph, or table of contents button to access the table of contents.

During book playback you may also access the same features using gestures. Double tap to play or pause.

## Go Read Quick Start

Prev  
section

Pause/  
Play

Table of  
Contents

Next  
section

- FREE accessible e-book reader for people with print disabilities
  - Android 2.2 Froyo and above
- Access and download books directly from Bookshare
- Read with voiced navigation and text-to-speech
- Read books in DAISY 3 text and EPUB 2 formats

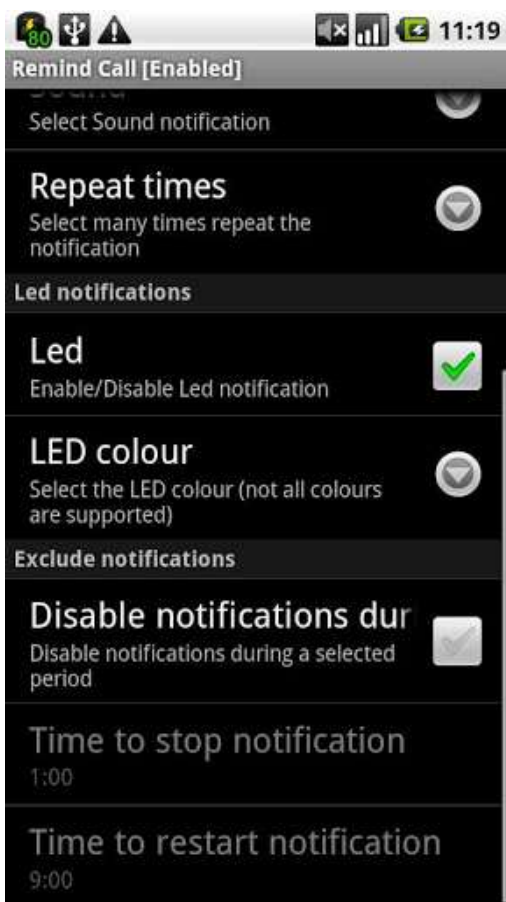
# MessageEase Keyboard



- Keyboard has large letters
- Change the colors
- Type using a Swype gesture
- Change the keyboard layout
- Lookup dictionaries to find the right spelling.
- Change the size, shape, haptic feedback
- FREE



# Easy Reminder



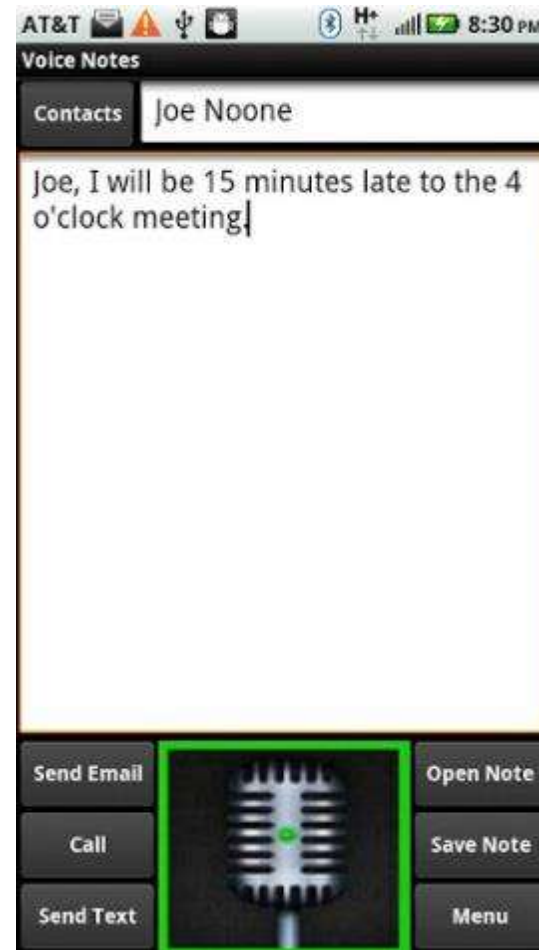
- Set alerts to remind you about unread messages or missed calls
- Notification is configurable
  - decide a time slot during which you will not be disturbed
- Free



# Voice Note Trial



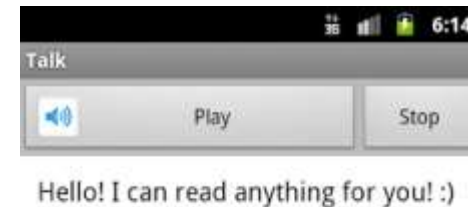
- Create lists, texts, email, notes, calls, and dial by voice
- Can use Google Voice Recognition when connected to internet
- Free



# Talk Text to Voice



- Convert text to voice using the Text-to-speech engine on your smartphone
- Allows importing web pages directly from the browser to listen to them
- Can also import selected text from other apps



# The Future of this OS is Limitless



- Google has the futuristic ambition and the funds to take Android to unprecedented heights. In many areas — such as predicting what users will do next.
- Google Now knows that in the morning you're getting ready for work and will tell you about the traffic.



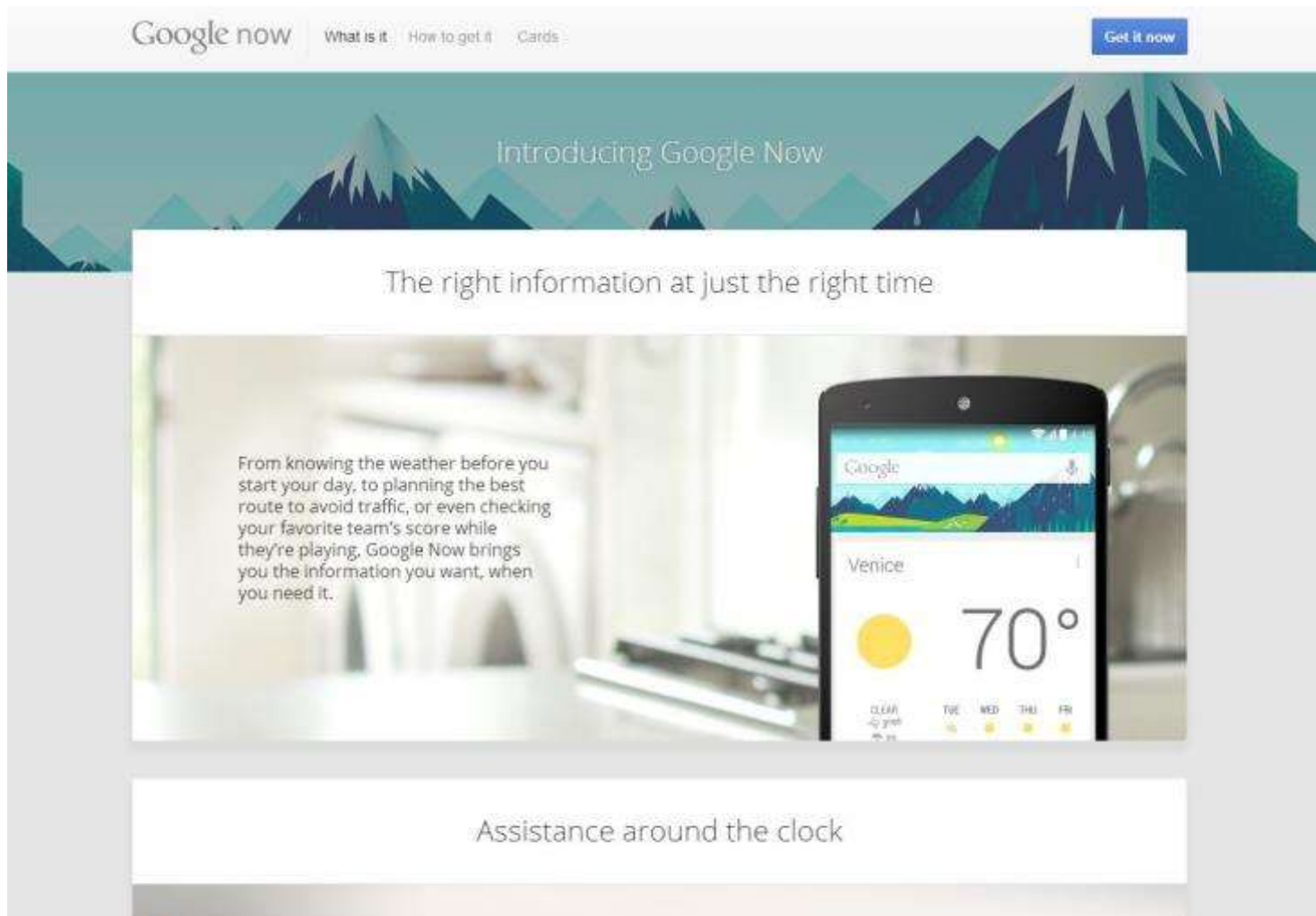


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# Android Resources

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# Google Now




Google now What is it How to get it Cards [Get it now](#)

## Introducing Google Now

The right information at just the right time

From knowing the weather before you start your day, to planning the best route to avoid traffic, or even checking your favorite team's score while they're playing, Google Now brings you the information you want, when you need it.



Assistance around the clock



# Resources



- <http://www.android.com/about/>
- [http://en.wikipedia.org/wiki/Android\\_\(operating\\_system\)](http://en.wikipedia.org/wiki/Android_(operating_system))
- [http://en.wikipedia.org/wiki/Android\\_version\\_history](http://en.wikipedia.org/wiki/Android_version_history)
- <http://www.google.com/landing/now/#whatisit>
- <http://www.statista.com/topics/876/android/>
- [http://en.wikipedia.org/wiki/Google\\_Play](http://en.wikipedia.org/wiki/Google_Play)
- <http://getvera.com/controllers/veralite/>
- <http://www.google.com/glass/start/>





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# A Closer Look at iOS

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# Technology Rapidly Evolves

- June 2007- 1<sup>st</sup> iPhone
- Sept 2007- 1<sup>st</sup> generation iPod Touch
- October 2008- 1<sup>st</sup> Android phone sold
- April 2010- 1<sup>ST</sup> iPad
- 2010- Google launched its Nexus series of tablets and smartphones
- 50 billion downloads!



# Statistics



- There are approximately 73 million iPhones in the world.  
» *Apple, 2012*
- In 2010, Apple reported that over 1000 new apps are submitted every day.
- In 2012, 400 million iTunes accounts  
» *Y. Lachelle, Aug., 2010 and H. Dediu, June 2012*
- Apple receives about 49.5 Million App downloads per day!  
» *H. Dediu June 2012*



# Apple iPad/ mini iPad



- Multi- touch screen
- New iOS 7
- Millions of apps
- Surf web
- iTunes
- Videos
- Organization
- Accessibility
- Books
- Photos
- Speakers
- New iPad had 5.0 megapixel camera
- Starts at \$499/\$399 and mini \$329





# Apple iPod Touch



- 5 Megapixel Camera
- Millions of apps
- Videos
- Surf Web
- Voice Over
- Organization
- Speakers
- Bluetooth
- New iOS 7

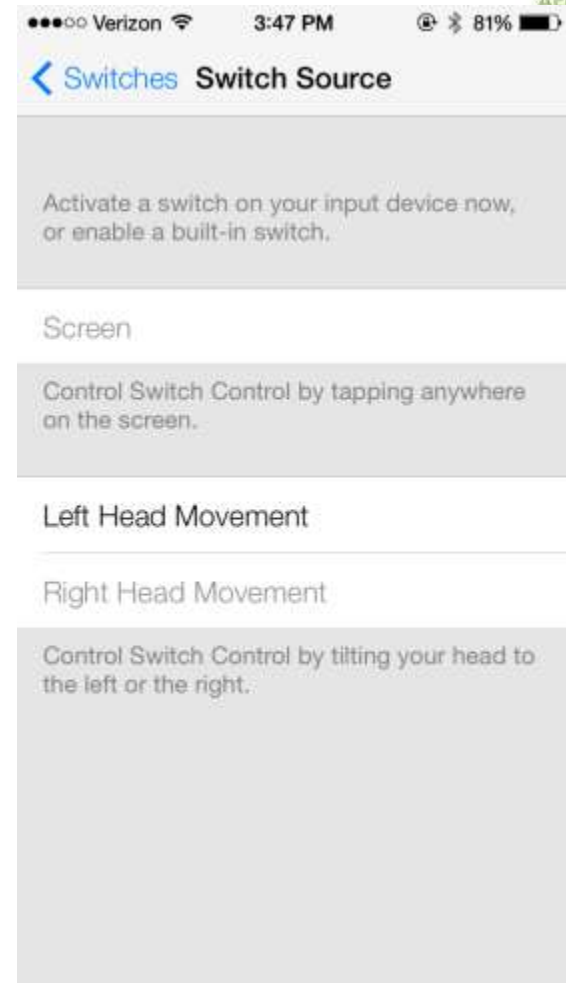


# Layout of the iPad



# New iOS 7 Features

- September 2013
- Automatically turn on captioning and subtitles
- Switch Source under Accessibility
  - Allows user to control devices by head movement



# Emma!



# So how do you like that new iPad?



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



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# iOS Accessibility

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# 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
- Switch Access
- 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

## ■ 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%
  - Works with VoiceOver on
- **Invert Colors**
  - Reverse video effect works in all applications
  - Can be used with Zoom and VoiceOver



# 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

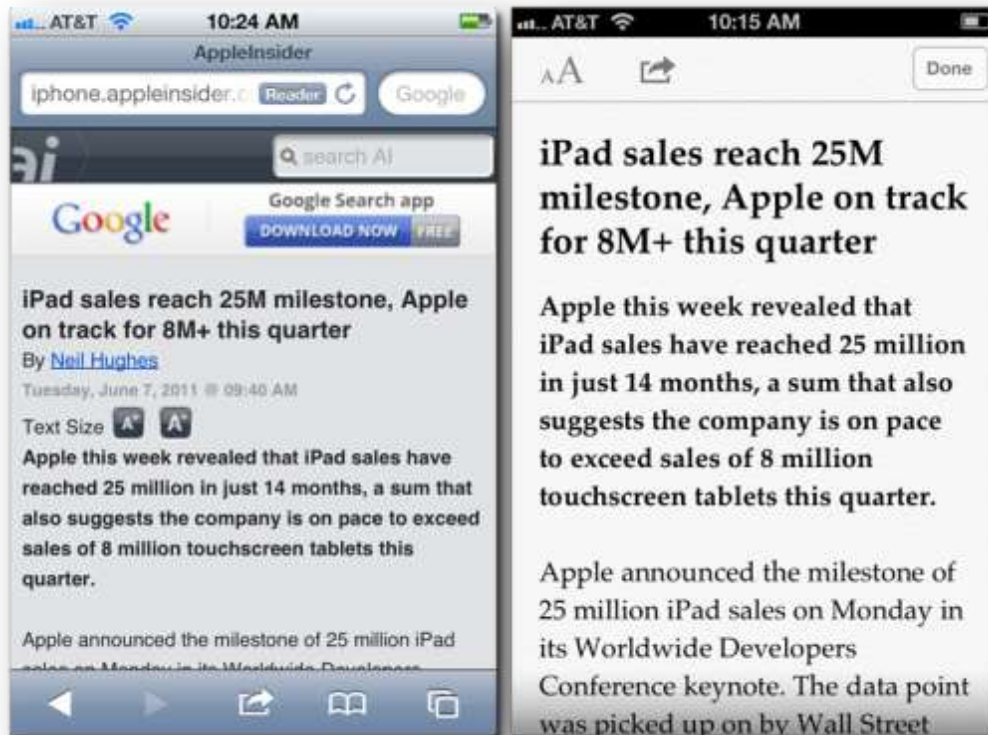


- Go to General => Keyboard and make sure Shortcut is turned on
- Go to Add New Shortcut
- Put in your Phrase
- Create Short Cut
- Example:
  - Phrase : Martha E. Rust, MS CRC ATP
  - Shortcut is: MER
  - So when MER is typed it will put in the above Phrase
  - OMW => On My Way!





# Reader for Websites



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

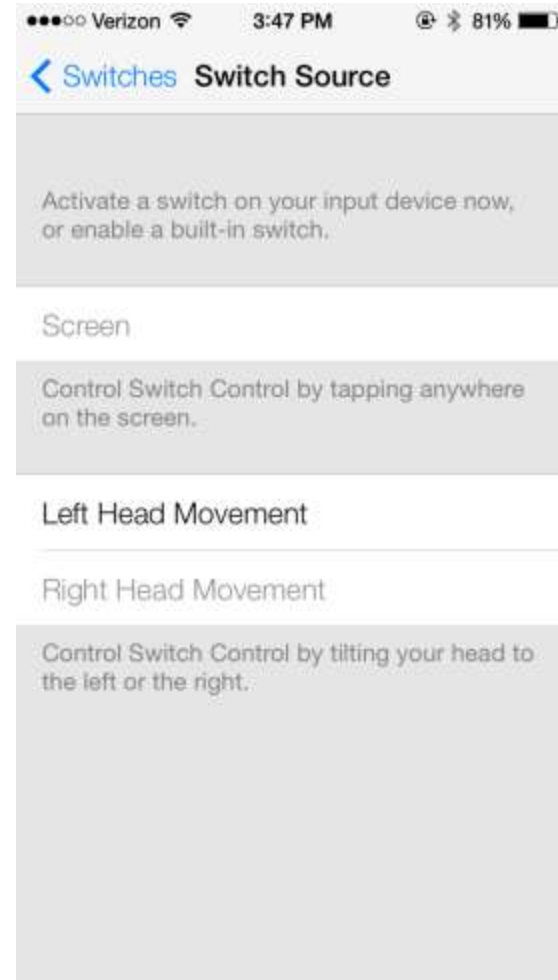
# Guided Access

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

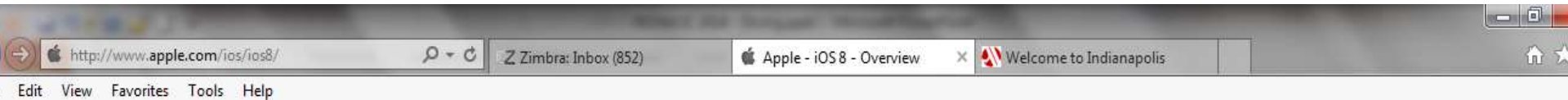


# iOS 7 Features

- September 2013
- Automatically turn on captioning and subtitles
- Fingerprint Security
  - iPhone 5
- Switch Source under Accessibility
  - Allows user to control devices by head movement



# iOS 8 Coming Fall 2014



## iOS 8 Preview

What's New ▾



Our smartest keyboard ever.

iOS 8 makes typing easier by suggesting contextually appropriate words to complete your sentences. It even recognizes to whom you're typing and whether you're in Mail or Messages. Because your tone in an email may be different from your tone in a message.

[Learn more >](#)





# iOS 8 Coming Fall 2014



This is a screenshot of the Apple website's iOS 8 Preview page. The browser's address bar shows the URL "http://www.apple.com/ios/ios8/" and the page title is "Apple - iOS 8 - Overview". The page features the "iOS 8 Preview" heading and the iCloud Drive logo. The main text reads: "iCloud Drive. Any kind of file. On all your devices." Below this, a paragraph states: "The good news: You can work on any file, anywhere. The bad news: You can work on any file, anywhere. That includes presentations, PDFs, images, and more — right from iCloud. On whichever device you're using, including your Mac or PC." A "Learn more &gt;" link is at the bottom left. On the right side, there are images of an iPad and an iPhone. The iPhone screen displays the iCloud app interface with folders for Keynote (23 items), Numbers (8 items), Pages (127 items), GoodReader, SketchBook Pro, and a Menu. The iPad screen shows a "Documents" view with a "Done" button and a search bar.

# iOS 8 Coming Fall 2014



## iOS 8 Preview



### Health.

An entirely new way to use your health and fitness information.

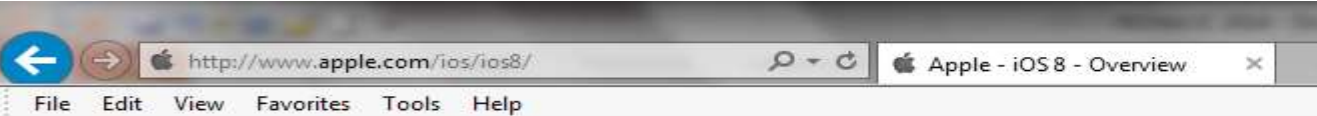
Now your activity tracker, heart rate monitor, and other health and fitness apps can talk to each other. Which means they'll be able to work even harder for you. And all the information is accessible in one easy-to-read dashboard.

[Learn more >](#)





# iOS 8 Coming Fall 2014



## iOS 8 Preview



### Spotlight. Brighter than ever.

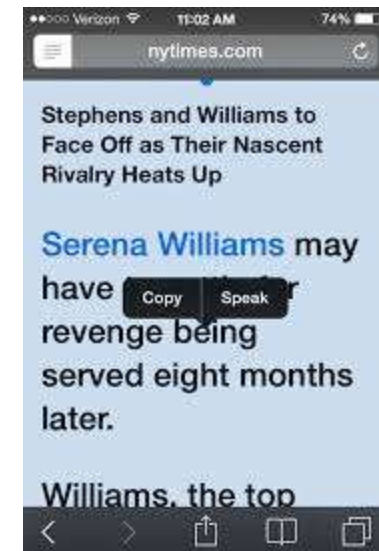
Sometimes you're looking for a contact or an app. Sometimes you're looking for answers. Spotlight now gives you suggestions from Wikipedia entries, places nearby, trending news, and more. It's even smart enough to recognize context and location to offer you the most relevant information.

[Learn more >](#)



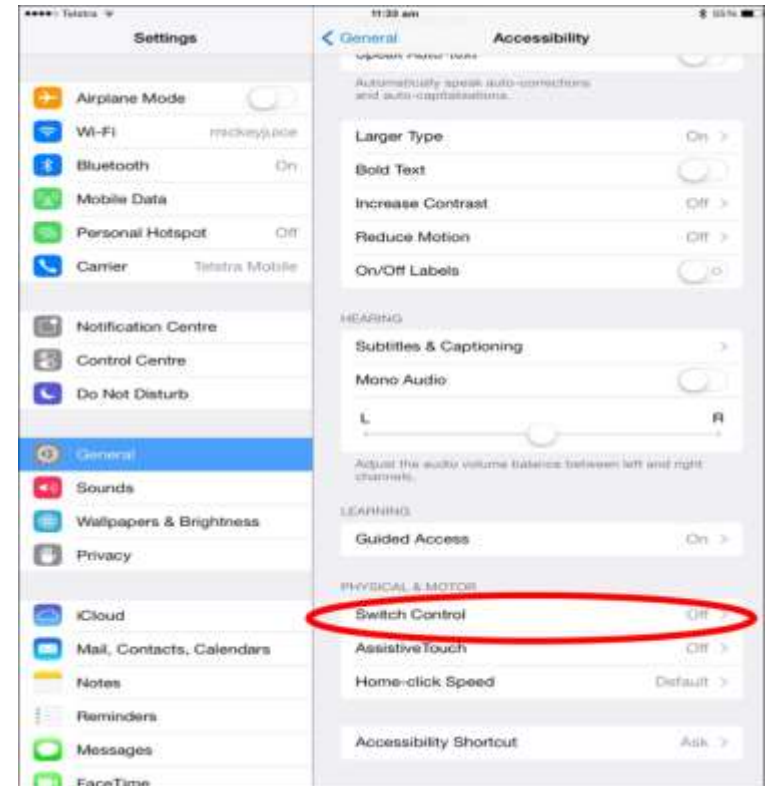
# Apple: Read Text Out Loud

- Open the Settings app on your home screen.
- Tap the General tab.
- Scroll down and tap the Accessibility tab.
- Tap the Speak Selection option (it should be set to off, currently).
- Tap the toggle switch to turn it on. You
  - can also adjust the rate of speech as well.
- Highlight any text like you would if you were going to copy it but tap the "Speak" button instead.
  - This option will change to "Pause" while the text is being spoken so you can stop it at any point.
- Can choose to highlight as it reads



# Apple: Switch Control

- An external adaptive switch:  
Choose from a variety of popular Bluetooth switches.
- The device screen: Tap on the screen to trigger the switch.
- The FaceTime camera:  
Move your head to trigger the switch. You can use the camera as two switches: One when you move your head to the left, and the other when you move your head to the right.



# Apple: Split Keyboard



- More ergonomic typing
- Tap and hold the keyboard button in the bottom right and select the "Split" option from the menu that pops up
- Access to “invisible keys”
  - prefer to type characters on the opposite side with the opposing hand

# Apple: Quick Tips



- A faster way to reveal the multitasking bar
  - Take four fingers and swipe them up — have faster access to the multitasking bar than by double-tapping the home button.
- Turn on Web Privacy Settings
  - Start the Settings app and tap on "Safari." Under the Privacy setting, set the "Private Browsing" switch to the "on" position
- Clicking the space twice while typing will create a period
  - Can make typing on a virtual keyboard easier



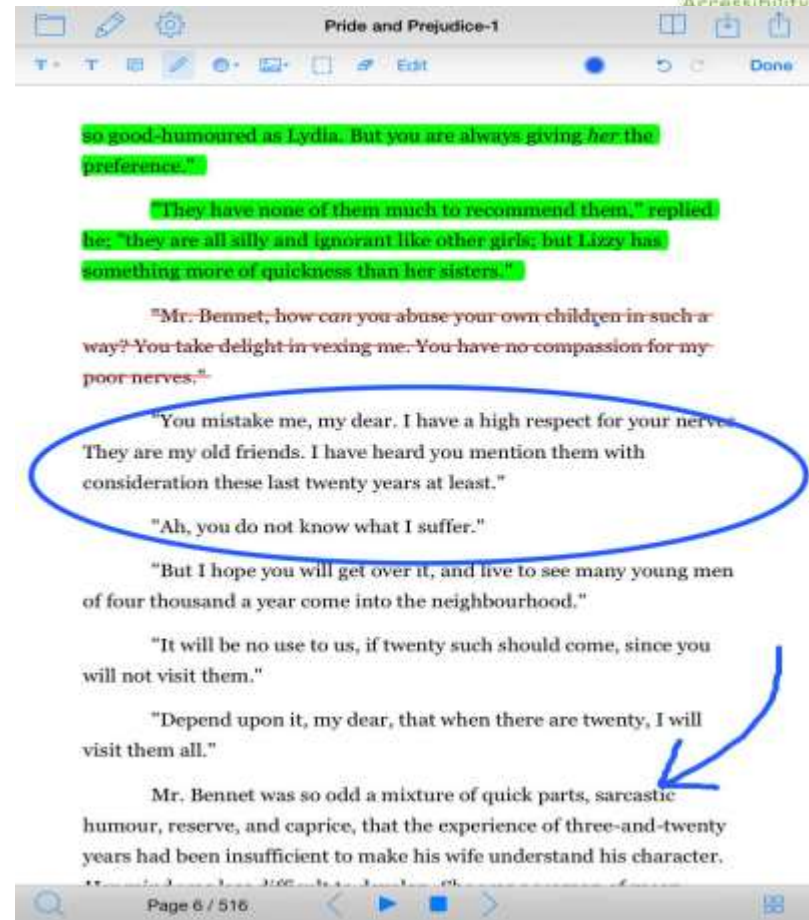


# Our Favorite iOS Apps





- Accessible Pro PDF Reader and Viewer with text to speech (TTS) and annotations
- Read with human quality voices
  - 40 different voices
- Can change background color
- Supports VoiceOver

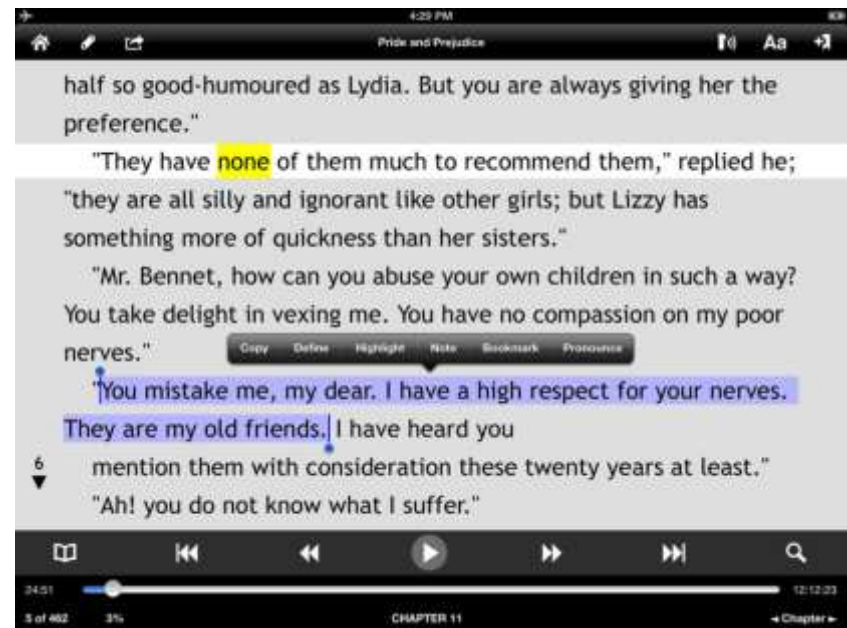


# Voice Dream



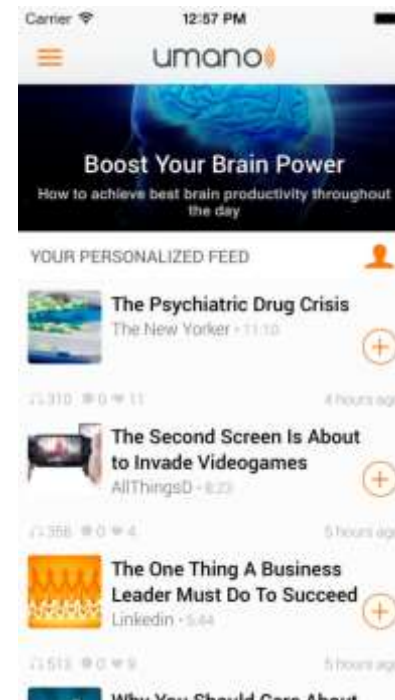
- Text to Speech
- Highlights as it reads
- Import
  - Bookshare
  - Dropbox
  - Gutenberg
  - Word Doc
  - PDFs
- Buy different voices
- Change rate of speed

- Download for later reading
- \$9.99





- News read to you by real people
- Make a playlist of articles
- Download to listen to offline
- Upgrade to premium for \$3.99/ month
- Free



# BARD Mobile



- Access directly to the National Library Service for the Blind and Physically Handicapped (NLS)
- Must be registered
- Settings
- Can use with braille display
- <http://www.loc.gov/nls/find.html>
- 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)





# Perfect OCR

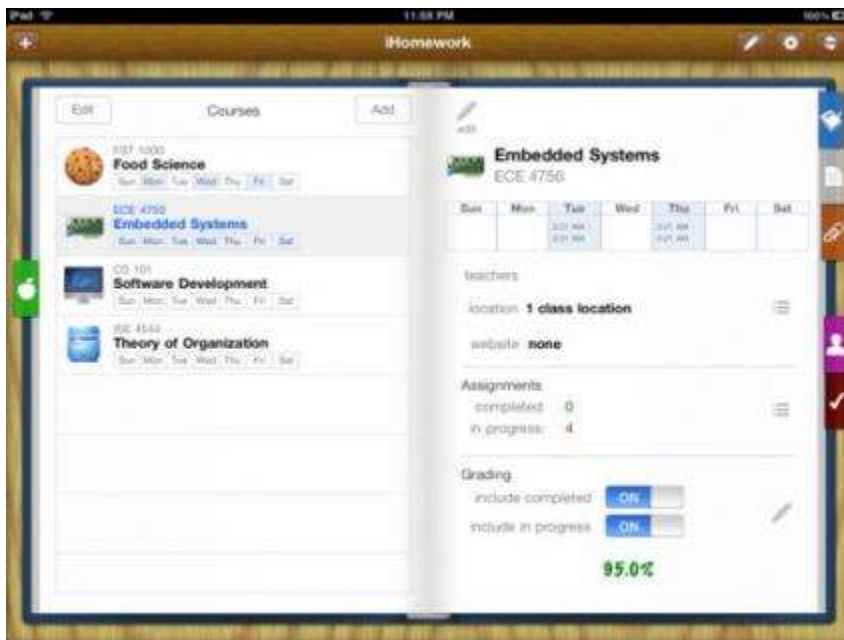


- \$3.99
  - Uses the built in camera to scan documents
- Edit, copy, store, email documents
- Upload to online storage is as Evernote
- Does take practice for picture



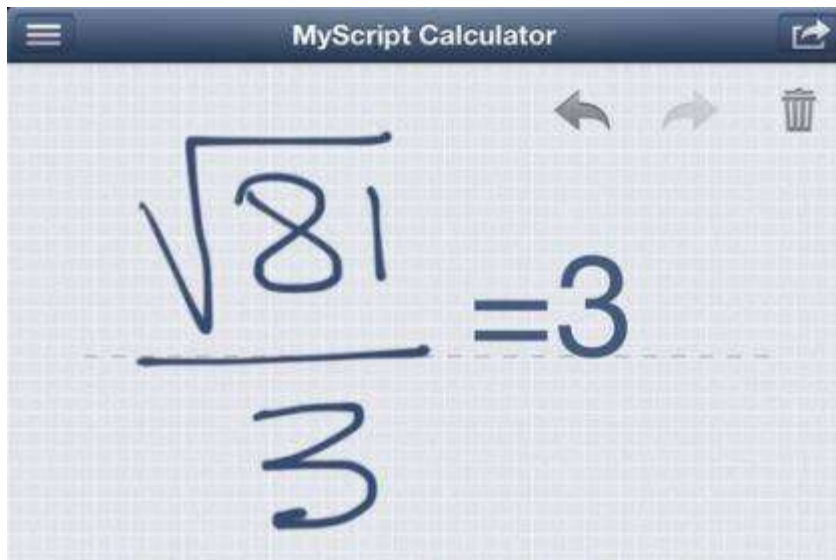
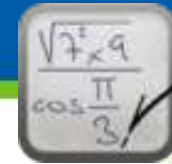


# iHomework



- 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

# MyScript Calculator

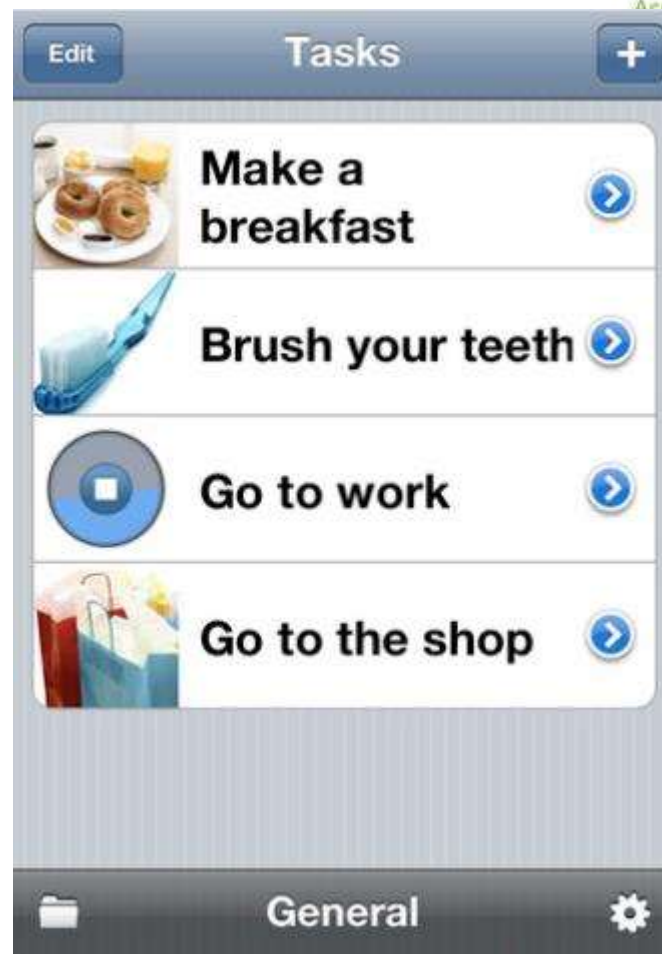


- Use your handwriting to write any arithmetic formula
- Write and calculate mathematical expressions in with no keyboard
- Scratch-out gestures to easily delete symbols and numbers
- Portrait and landscape operation
- Redo and undo functions

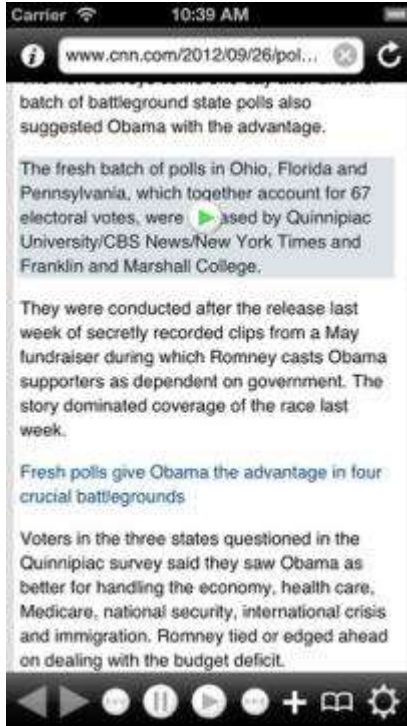
# Picture Scheduler



- 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



# WebReader



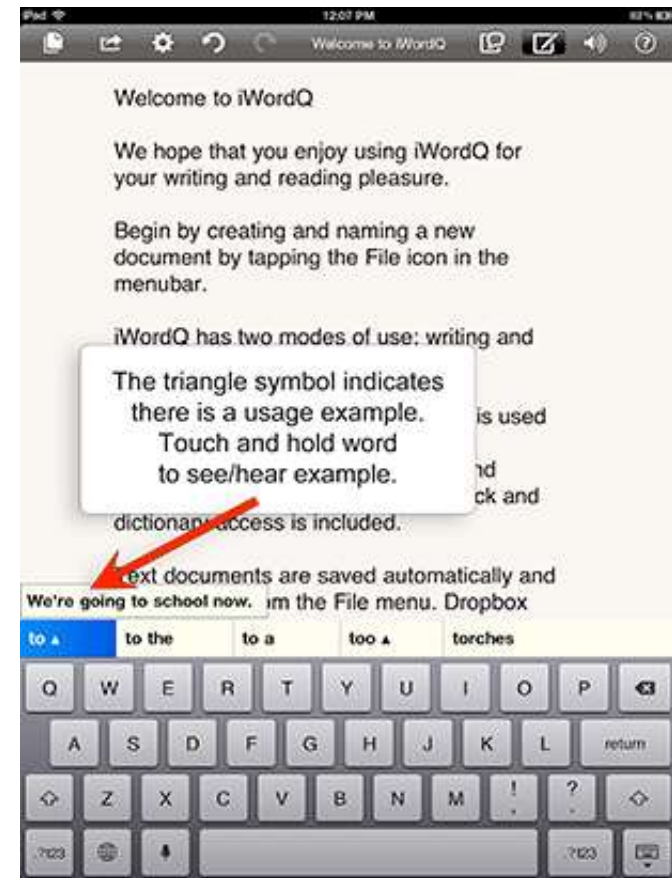
- Text to speech technology for reading web page content
- Web pages can be read as soon as they are loaded or use Cut, Copy, & Paste to read only sections of webpage
- Highlights as it reads text
- Speaking rate control available
- \$1.99



# iWordQ



- App version of Word Q software
- Not available with SpeechQ right now
- In context word prediction
- Dictionary
- Text-to-Speech
- Dropbox
- Saves documents





# Say it & Mail it Pro




- Email voice memos
- Attach pictures
- Set preference to start recording as soon as app opens
- Add location



# LookTel Money Reader



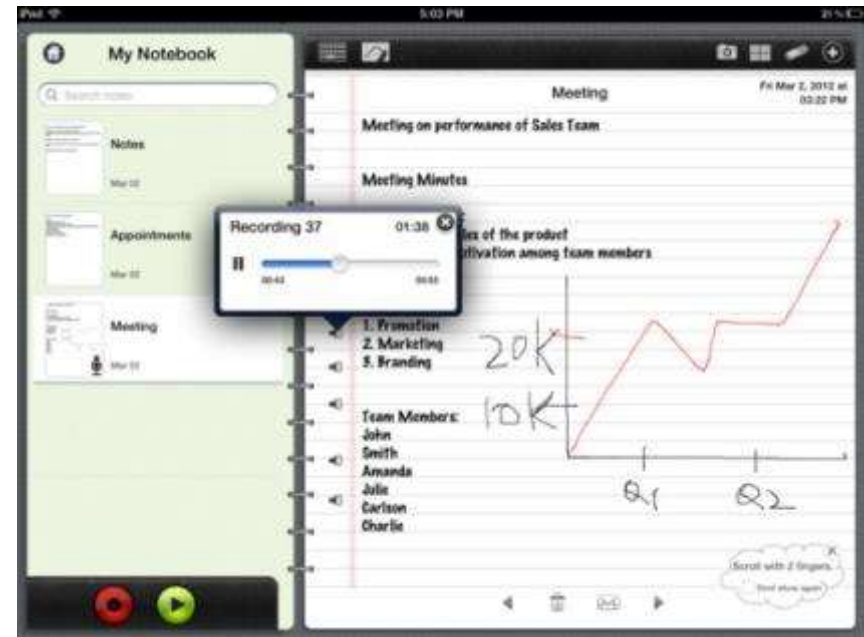
- iOS App 
- \$1.99
- Uses camera
- Speaks out loud
- Do not need to hold bill steady or in entire frame



# Voice Pad



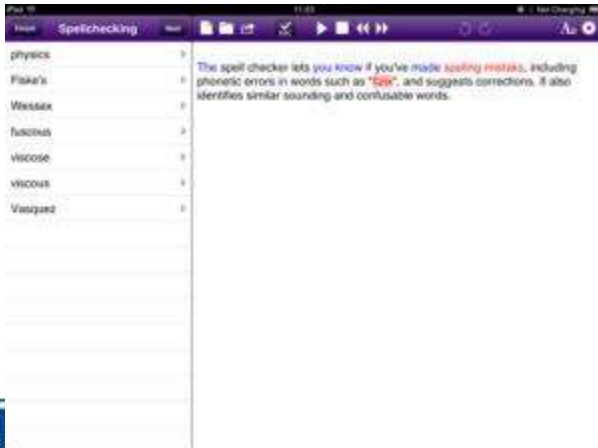
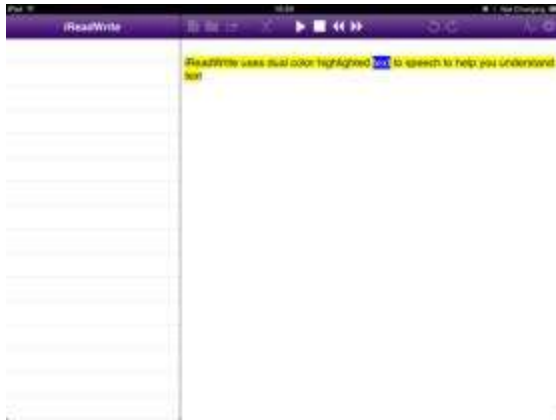
- Record lectures
- Tag the audio with notes
- Tap the audio tag next to the note to recall exactly what was said during which a specific note was taken
- Free





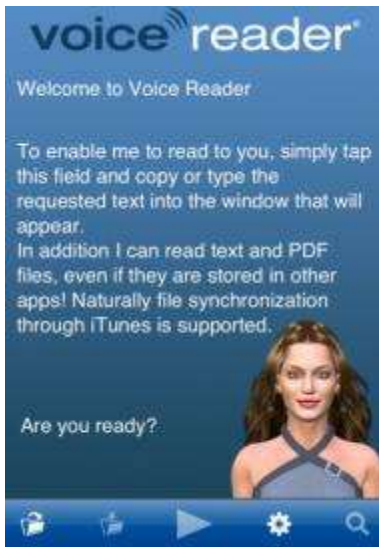
- Kurzweil 3000
- Need web license
- Read text out loud
- 4 voices
- Upload Universal Library
- Mobile access for sharing

# iWriteRead



- TextHelp
- No internet needed to use
- Text-to-speech
- Word Prediction
- Phonetic Spell Checker
- Homophone and Confusables Checker
- Dictionary
- Picture Dictionary
- Customizable Background and Text Colors
- Choice of Voices and Fonts
- Importing and Sharing documents

# Voice Reader



- Copy and paste text into the app or drag text in using iTunes file sharing feature, then play back or email the resulting audio file.
- 32 Voices to Choose from
- Can open PDFs and Text Files

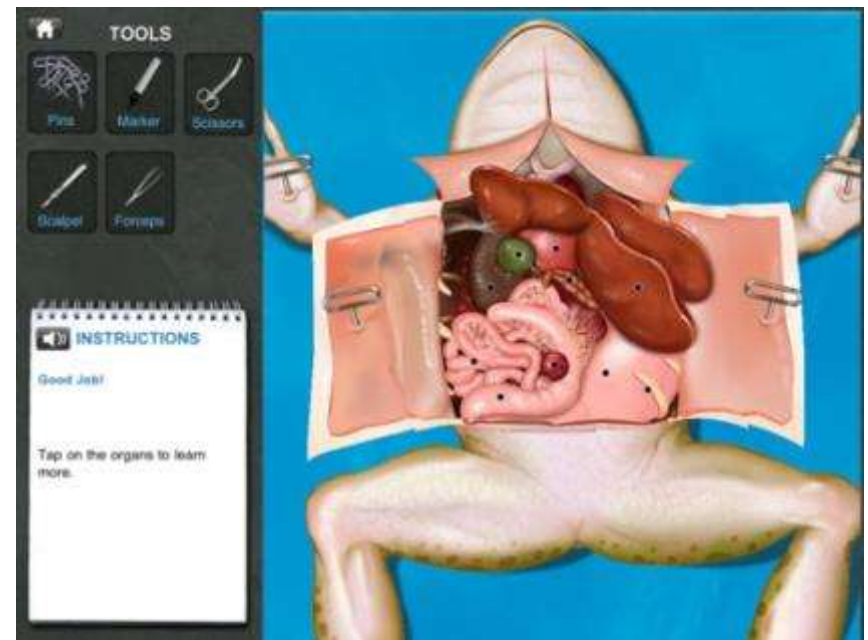




# Frog Dissection



- Dissecting a virtual specimen
- Step by step instructions with voice over
- Accurate simulation of the wet lab dissection procedure
- Comprehensive information on frogs' organs
- \$3.99







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# iOS Resources

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# 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





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

# Contact



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