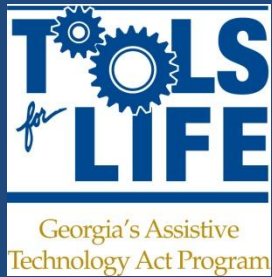
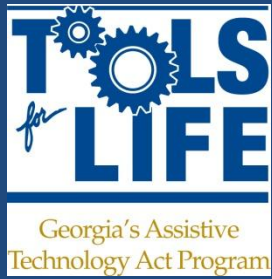


# Strategies and Solutions for Individuals who have Low Vision and/or Blind

In Collaboration with:  
Center for the Visually Impaired  
John Rempel  
Vocational Rehabilitation  
Jennifer Thomas  
Tools for Life  
Martha Rust  
[www.gatfl.org](http://www.gatfl.org)



- **CEUs** - Visit the AAC Institute  
[www.aac institute.org](http://www.aac institute.org)
- **CRCs** – To receive your verification form, send an e-mail with your name, organization, city, state and e-mail address to [Liz@gatfl.org](mailto:Liz@gatfl.org)

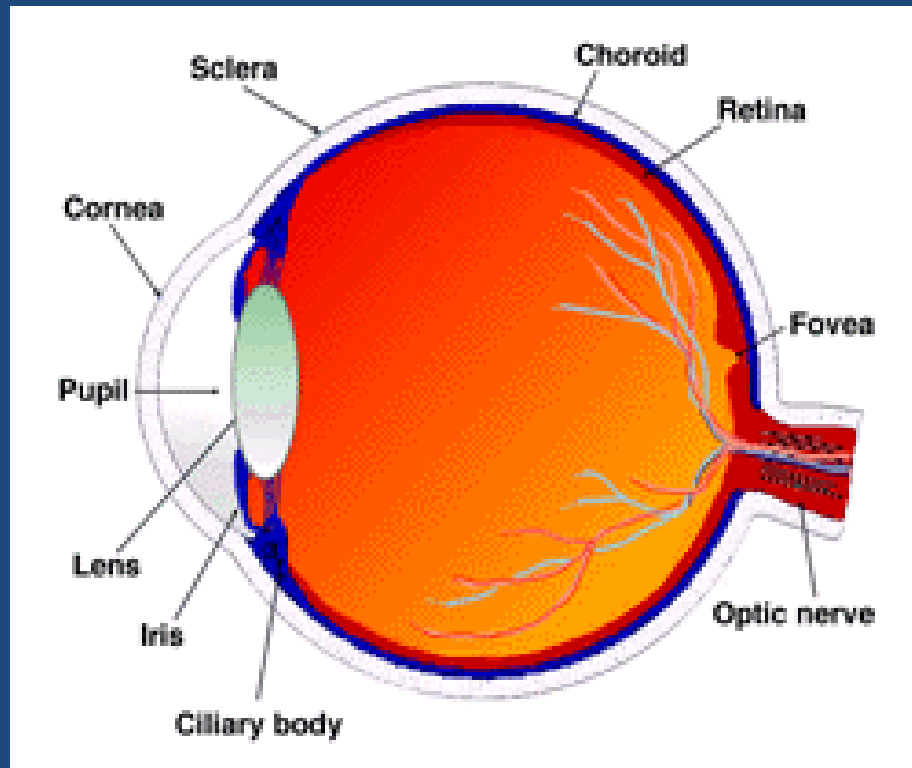


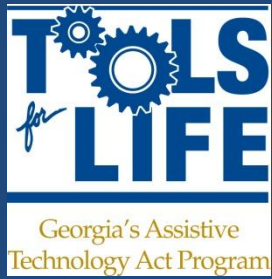
# Help Us Improve

- Please take a moment to complete our survey

<http://www.surveymonkey.com/s/R325kJX>

# The Human Eye

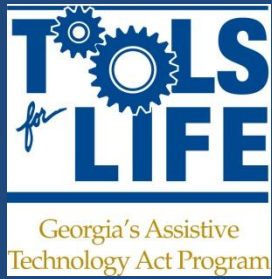




# Leading Causes of Blindness

- Glaucoma
- Macular Degeneration
- Cataracts
- Diabetic Retinopathy
- Retinitis Pigmentosa

(National Society to Prevent Blindness)

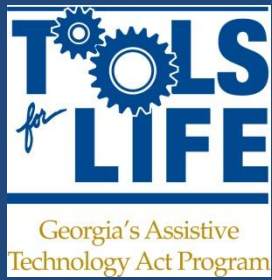


# Glaucoma

- Eye disorder in which the optic nerve suffers damage
- Raised intraocular pressure is a significant risk factor
- “Silent Thief of Sight“
- Hereditary link
- Restricts visual fields
- Cannot be cured, but treatable
- 2 Types:
  - Open Angel
  - Closed Angel

# Glaucoma: What It Looks Like...



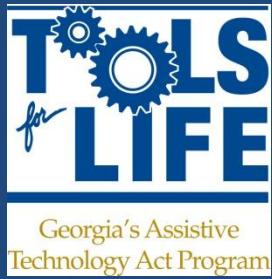


# Macular Degeneration

- Loss of central vision
- Affects the macular area of the retina
- Peripheral vision remains
- Two Types:
  - Dry
  - Wet

# Macular Degeneration: What it Looks Like....

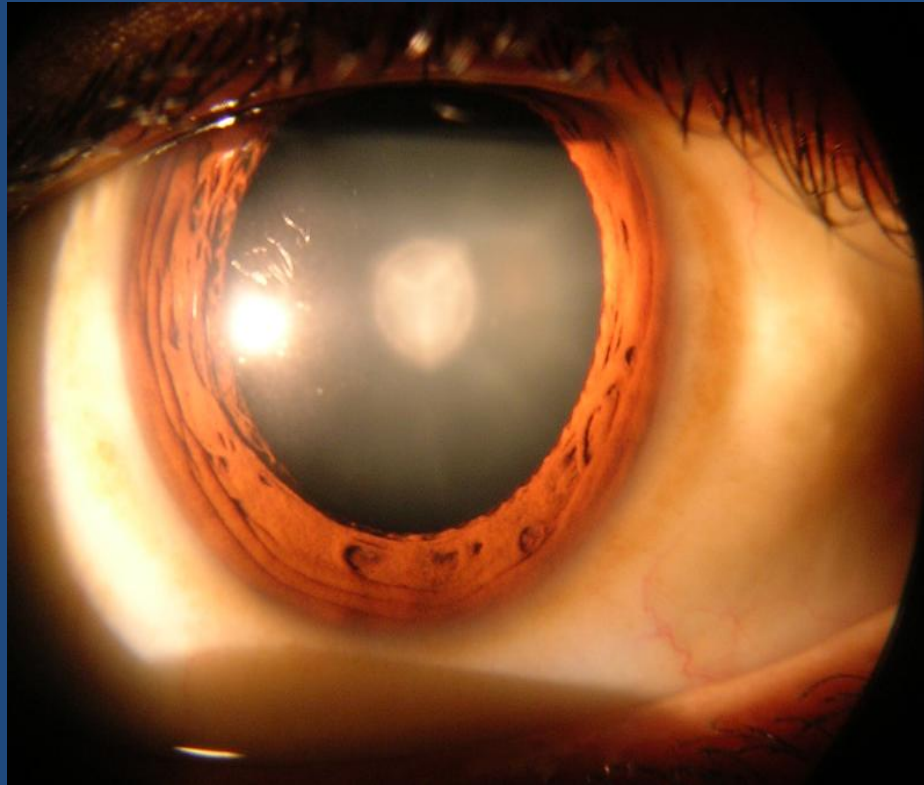


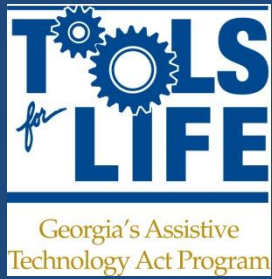


# Cataracts

- Clouding of the lens
- Symptoms include, whitish appearance of pupils, blurred vision/decreased acuity
- Causes: congenital, senile, trauma
- Surgical option to remove cataract
- Glasses, contact lens or intraocular lens implants are used to correct refraction

# Cataract: What It Looks Like...



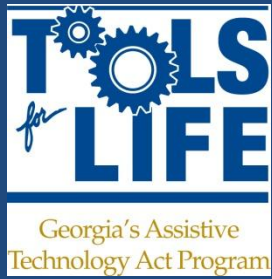


# Diabetic Retinopathy

- Secondary to Diabetes
- Affects retinal blood vessels: Intraretinal hemorrhaging and abnormal growth of new vessels into vitreous
- Bleeding in the vitreous blocks light
- Prevention: Controlled Diabetes
- Treatment: Photocoagulation

# Diabetic Retinopathy: What It Looks Like...



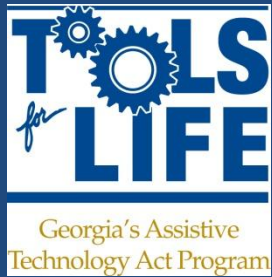


# Retinitis Pigmentosa

- Degeneration of the retina
- Inherited disorder
- Severe and progressive peripheral vision loss
- “Tunnel Vision”
- Initial symptom: Night blindness
- Untreatable

# Retinitis Pigmentosa: What It Looks Like...



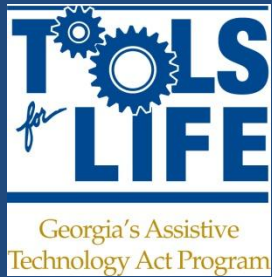


# Definition: Legal Blindness

An impairment of legal blindness may be established if:

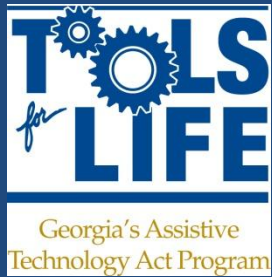
1. The individual has a central visual acuity for distance of 20/200 or poorer in the better eye, after best correction; or
2. The individual, in whom best corrected visual acuity is better than 20/200, has a central field of vision no greater than 20 degrees in its widest diameter.

Source: GDOL Vocational Rehabilitation Program Client Services Policy Manual



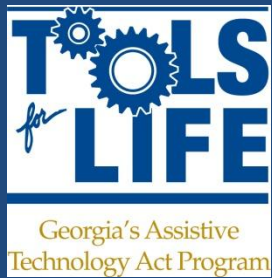
## Definition: Low Vision/ Visual Impairment

- Low vision — A visual impairment, not corrected by standard eyeglasses, contact lenses, medication, or surgery, that interferes with the ability to perform everyday activities
- Georgia's Definition: Visual impairment may be established if:
  1. The individual has a central visual acuity for distance, after best correction in the better eye, of no better than 20/60; or
  2. The individual has a contraction of the visual field, in the better eye, of 20 degrees or less from the point of fixation, meaning the individual has a central field of vision no greater than 40 degrees, or the individual has a diagnosed hemianopic defect.



# Eye Care Professionals

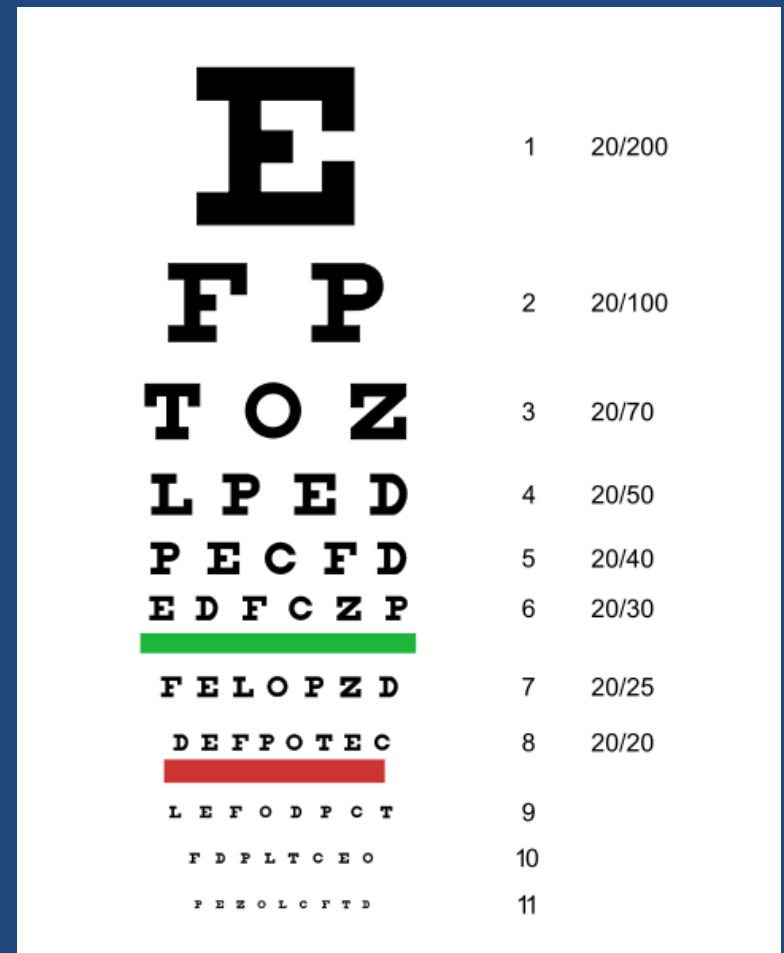
- **Ophthalmologist**—A medical doctor who diagnoses and treats all diseases and disorders of the eye, and can prescribe glasses and contact lenses.
- **Optometrist**—A primary eye care provider who prescribes glasses and contact lenses, and diagnoses and treats certain conditions and diseases of the eye.
- **Specialist in Low Vision**—An ophthalmologist or optometrist who specializes in the evaluation of low vision. This person can prescribe visual devices and teach people how to use them.
- **Optician**—A trained professional who grinds, fits, and dispenses glasses by prescription from an optometrist or ophthalmologist.

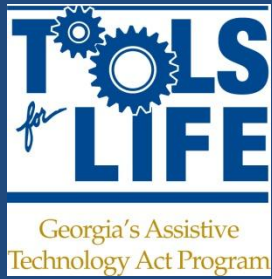


# Comprehensive Eye Exam

## Components of the Report:

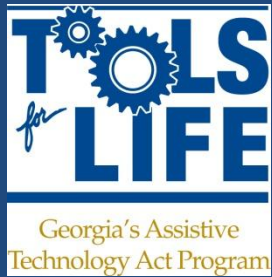
- History
- Exam
- Assessment
- Plan





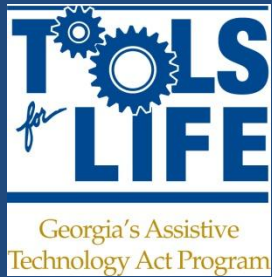
# Interpreting the Reports: What to look for...

- Diagnosis/Eye Condition
- Etiology
- Visual Acuities
- Best Corrected Visual Acuities
- Ocular Pressures
- Visual Field
- Treatment Plan
- Prognosis



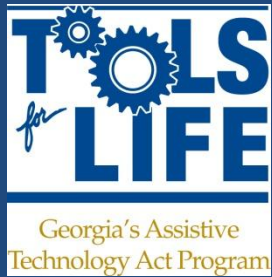
# Common Eye Report Abbreviations

- VA = Visual Acuity
- Va cc = With refractive correction
- Va sc = Without refractive correction
- OS = Left Eye
- OD = Right Eye
- OU = Both Eyes
- NLP = No Light Perception
- LP = Light Perception
- CF = Count Fingers
- HM = Hand Motion



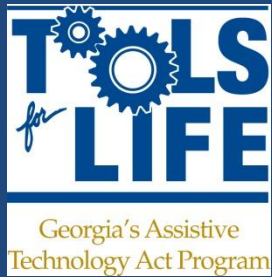
# Questions to Ask Your Eye Care Professional

- What changes can I expect in my vision?
- Will my vision loss get worse? How much of my vision will I lose?
- Will regular eyeglasses improve my vision?
- What medical/surgical treatments are available for my condition?
- What can I do to protect or prolong my vision?
- Will diet, exercise, or other lifestyle changes help?
- If my vision can't be corrected, can you refer me to a specialist in low vision?
- Where can I get a low vision examination and evaluation? Where can I get vision rehabilitation?



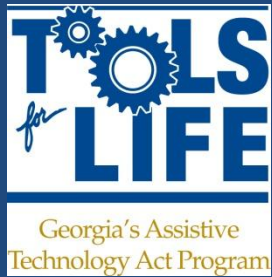
# Low Vision Exam

- Low Vision Exams evaluates for functional vision & refraction error
- Different magnifications for different purposes
- Lighting & Glare Evaluation
- Contrast Sensitivity Function



# Questions to Ask Your Low Vision Specialist

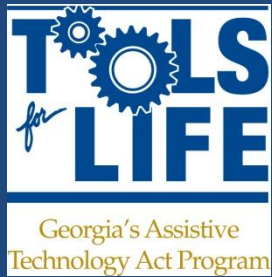
- How can I continue my normal, routine activities?
- Are there resources to help me in my job?
- Will any special devices help me with daily activities like reading, sewing, cooking, or fixing things around the house?
- What training and services are available to help me live better and more safely with low vision?
- Where can I find individual or group support to cope with my vision loss?



## After the Examination...

### Implication for a Rehabilitation Counselor:

- Utilizes the eye exam to determine eligibility for the Vocational Rehabilitation Program
- Recommends for further evaluation:
  - Low Vision Evaluation
  - Assistive Work Technology (AWT)
  - Vision Rehabilitation Therapy (VRT)
  - Orientation and Mobility (O&M)
- Develop an Individualized Plan of Service (IPE) to meet a person's employment and/or independent living needs



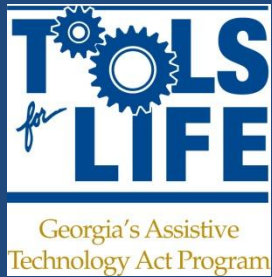
# Questions about GA Blindness Services

- **Contact:**

Jennifer Thomas, CRC  
Blindness Services Unit Manager  
GA Department of Labor  
Vocational Rehabilitation Program

(770) 528-6837

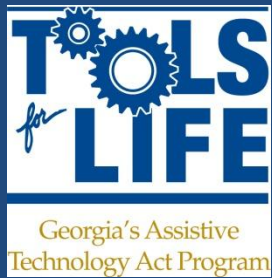
[jennifer.thomas@dol.state.ga.us](mailto:jennifer.thomas@dol.state.ga.us)



**Center for the Visually Impaired**  
739 West Peachtree Street, N.W.  
Atlanta, GA 30308  
Phone: 404-875-9011



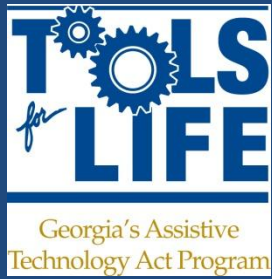
**John Rempel**  
**Assistive Technology Specialist**  
**404-602-4311**  
**[jrempel@cviga.org](mailto:jrempel@cviga.org)**



# Technology: the Great Equalizer

- Modifications Within the Operating System
- Screen Magnification Solutions
- Screen Reading Solutions
- Scanning Solutions
- GPS Solutions
- Apps for the iPhone and iPad

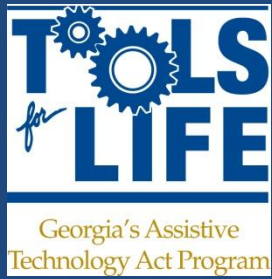




# One Size Does Not Fit All

- Functional Vision
- Current Technology Available to Person
- Previous Keyboard and Computer Skills
- Cognition and Memory Retention
- Physical Abilities and Limitations
- Physical Environment
- Financial Resources
- Available Supports (Family and Friends)

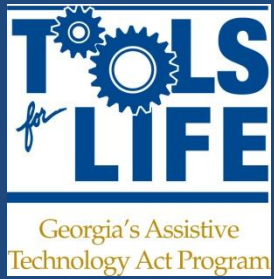




# WINDOWS OS MODIFICATIONS

- Screen Resolution
- Increase Pointer Size
- Slow Down “Double Click” Feature of Mouse
- Slow Down Movement of Mouse
- Changing Windows Themes
- The Magic of Control + Spinwheel
- Accessing the “Magnifier” Program
- Accessing “Narrator”, the built in screen reader

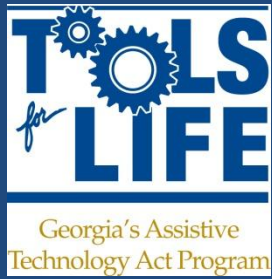




# Mac OS

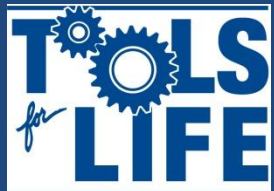
- VoiceOver
- Zoom





# Screen Magnification Solutions

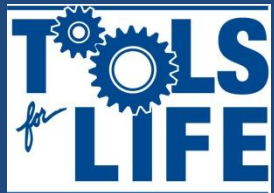
- **MAGic by Freedom Scientific**
- **ZoomText by aisquared**
- **WinZoom by Clarity**
- **iZoom by issist**



Georgia's Assistive  
Technology Act Program

# Officedepot.com



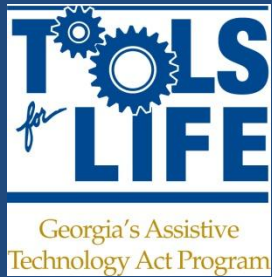


Georgia's Assistive  
Technology Act Program

[Accessingenuity.com](http://Accessingenuity.com)

# LCD Monitor Arm

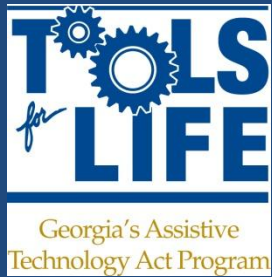




# MAGic

- **MAGic Professional**
  - With Speech: \$495
  - Without Speech: \$295
- **MAGic Standard**
  - With Speech: \$445
  - Without Speech: \$245
- **Distributed by Freedom Scientific**
  - Website: [www.freedomscientific.com](http://www.freedomscientific.com)
  - Phone Number: (800) 444-4443

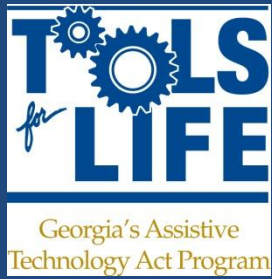




# ZoomText

- ZoomText
  - Speech: \$595.00
  - Without Speech: \$395.00
- ZoomText USB Drive
  - Speech: \$695.00
  - Without Speech: \$495.00
- ZoomText Express
  - Maximum of 2X Magnification: \$49.99
- Distributed by aisquared
  - Website: [www.aisquared.com](http://www.aisquared.com)
  - Phone Number: (802) 362-3612

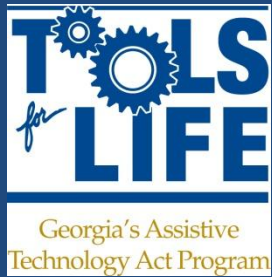




# WinZoom

- WinZoom USB Screen Magnifier/Reader
  - \$399.00
- WinZoom Screen Magnifier/Reader
  - \$299.00
  - Without Speech: \$495.00
- WinZoom Lite (no speech, 4x Max. Magnification)
  - \$59.95
- Distributed by Clarity
  - Website: [www.getwinzoom.com](http://www.getwinzoom.com)
  - Phone Number: (925) 449-2000

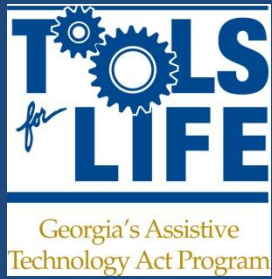




# iZoom

- iZoom USB (Magnifier & Speech)
  - \$459.00
- iZoom Standard (Magnifier & Speech)
  - \$299.00
- iZoom Standard (Magnifier & Speech)
  - \$19.95 for Monthly Subscription
- Distributed by issist
  - Website: [www.issist1.com](http://www.issist1.com)
  - Phone Number: (201) 984-5687

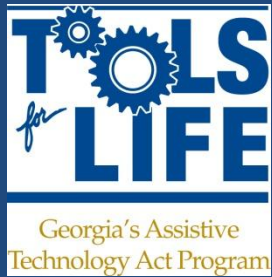




# Screen Reading Solutions

- JAWS by Freedom Scientific
- Window-Eyes by GW Micro
- System Access by Serotek
- NVDA by NV Access

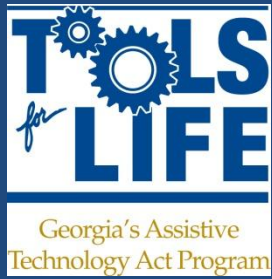




# JAWS

- JAWS Professional
  - \$1095.00: Can be used with all 64-bit versions of Windows 7, Windows Vista® and Windows 2008 Server
- JAWS Standard
  - \$895.00: Can be used with 64-bit versions of Windows 7 Home Premium, Windows Vista Home Premium and Windows Vista Home Basic.
- Distributed by Freedom Scientific
  - Website: [www.freedomscientific.com](http://www.freedomscientific.com)
  - Phone Number: (800) 444-4443

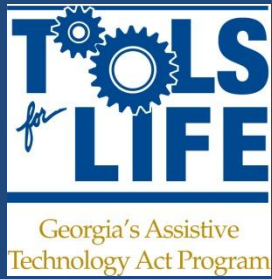




# Window-Eyes

- Window-Eyes (Full Version)
  - \$895.00
- 60 Day Evaluation
  - 39.00
- Distributed by GW Micro
  - Website: [www.gwmicro.com](http://www.gwmicro.com)
  - Phone Number: (260) 489-3671

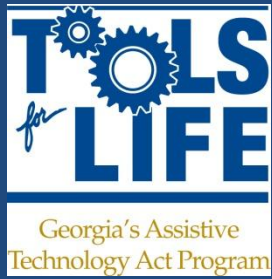




# System Access

- System Access To Go
  - Free (requires Internet Access)
- System Access Standalone
  - \$399.00
- System Access Mobile (Thumb Drive/2 Computers)
  - \$499.00
- Distributed by Serotek
  - Website: [www.serotek.com](http://www.serotek.com)
  - Phone Number: (866) 202-0520

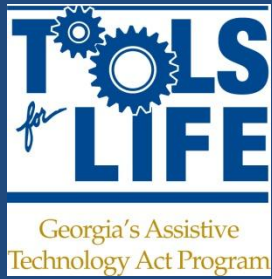




# NVDA

- NVDA
  - Free
  - Open Source
- Distributed by nvaccess
  - Website: [www.nvaccess.org](http://www.nvaccess.org)
  - Phone Number: (617) 5667-8372

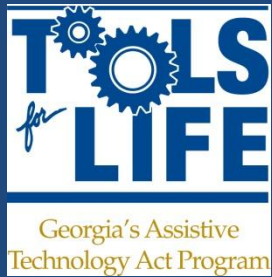




# DESKTOP SCANNING SOLUTIONS

- **Kurzweil 1000:** [www.kurzweiledu.com](http://www.kurzweiledu.com)
  - \$995.00
- **OpenBook:** [www.freedomscientific.com](http://www.freedomscientific.com)
  - \$995.00
- **Text Cloner Pro:** [www.readingmadeez.com](http://www.readingmadeez.com)
  - \$99.95

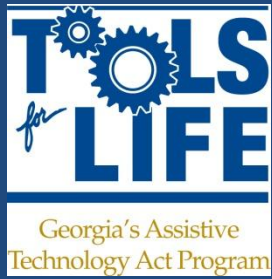




# Standalone Scanning Solutions

- Sara: [www.kurzweiledu.com](http://www.kurzweiledu.com)
  - \$995.00
- ScannaR: [www.freedomscientific.com](http://www.freedomscientific.com)
  - \$995.00
- eCclipse Scanner-Reader:
  - : [www.maxiaids.com](http://www.maxiaids.com)
    - \$1995.00
- Eye-Pal Vision: [www.abisee.com](http://www.abisee.com)
  - \$1275.00

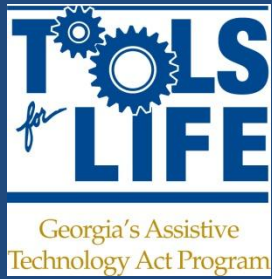




# Portable Scanning Solutions

- Zoom-Ex: [www.abisee.com](http://www.abisee.com)
  - \$1775.00
- Zoom-Twix: Scanner-Reader:
- : [www.abisee.com](http://www.abisee.com)
  - \$2895.00





# Accessible iPhone Apps

- Many Apps for the iPhone and iPad will work with VoiceOver and Zoom
- VoiceOver and Zoom Can't Run Simultaneously
- Some Apps Work with iPhone 4, but not iPhone 3








## Tip 132



### Accessibility

Accessibility features (available on iPhone 3GS and later) are designed to make it easier for users with visual, auditory, or other physical disabilities to use iPhone. These include: VoiceOver, Zoom, White on Black, Mono Audio, Speak Auto-text. Tap Settings> General> Accessibility





 Search the web with your camera   
Ads by AdMob

**Tip 134**  

### Accessibility - Zoom

Zoom is a special accessibility feature that lets you magnify the entire screen of any application you're using to help you see what's on the display.

**Zoom**  OFF

Zoom magnifies the entire screen.

**To zoom**  
Double-tap with three fingers.

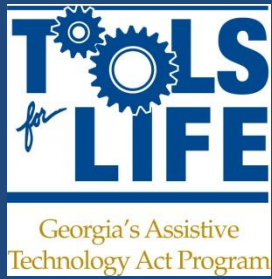
**To move around the screen**  
Drag three fingers while zoomed.

**To change zoom**  
Double-tap and drag three fingers up or down.



Georgia's Assistive  
Technology Act Program

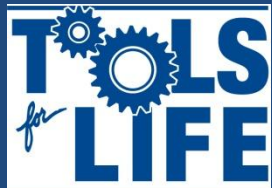




# Navigon

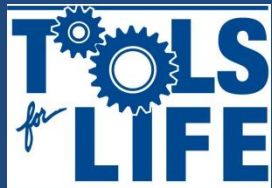
- Price can range from \$35-\$45.00
- Provides Speech Output
- Works well with VoiceOver and Zoom
- Available as a Download from the iTunes Store



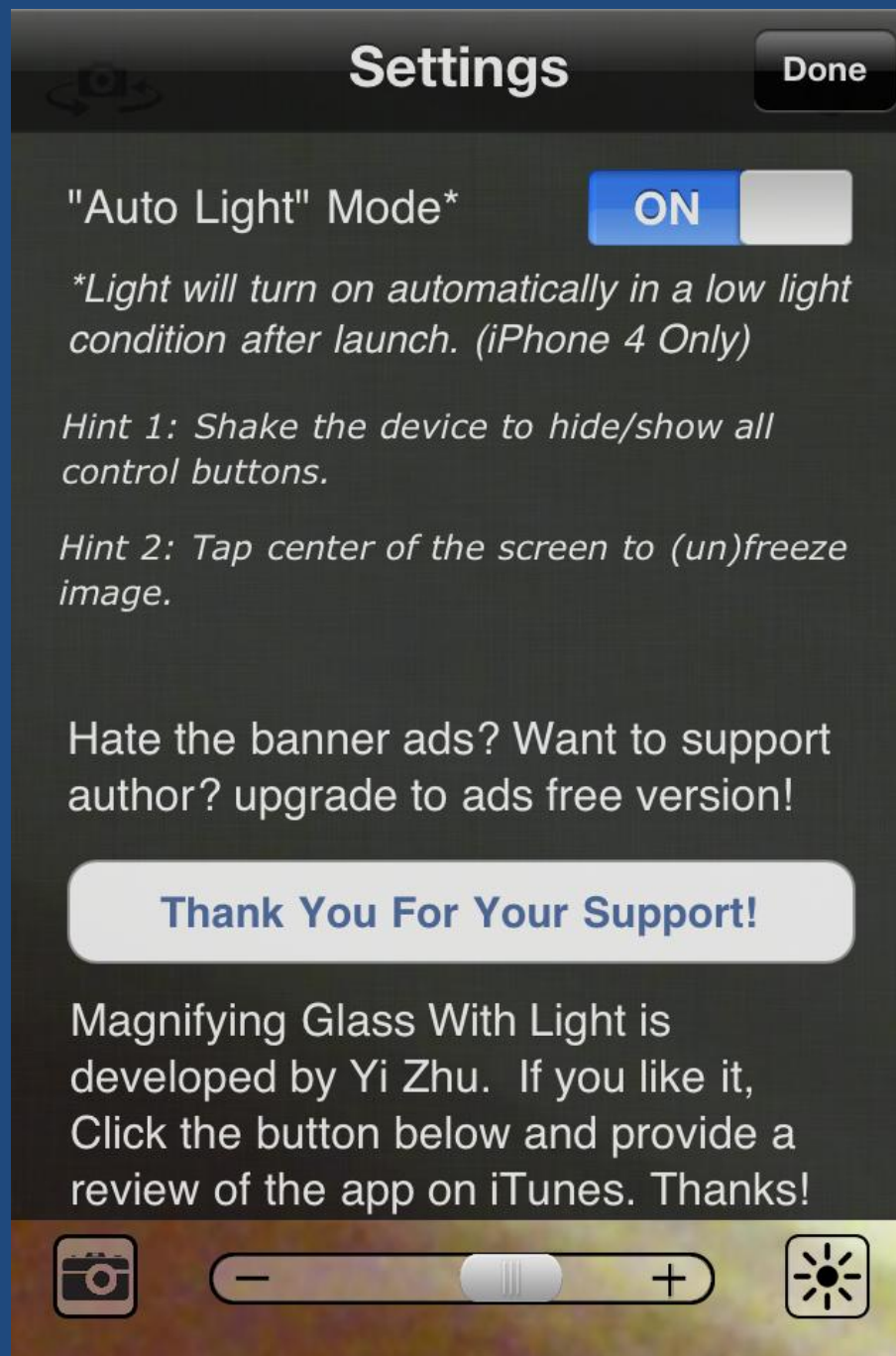


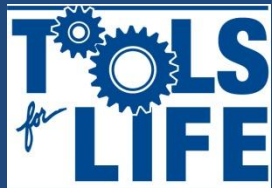
Georgia's Assistive  
Technology Act Program





Georgia's Assistive  
Technology Act Program





Georgia's Assistive  
Technology Act Program

AT&T 8:55 PM 51%

# Sendero GPS LookAround

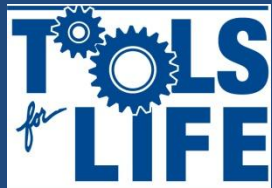
Welcome to Sendero GPS LookAround version 1.2. Touch a button or shake the phone to receive nearby location information.

Lookaround

Nearest Cross Street

Nearest 5 Points  
of Interest





Georgia's Assistive  
Technology Act Program

AT&T 8:55 PM 51%



**Atlanta**  
H: 74° L: 48°

**69°**

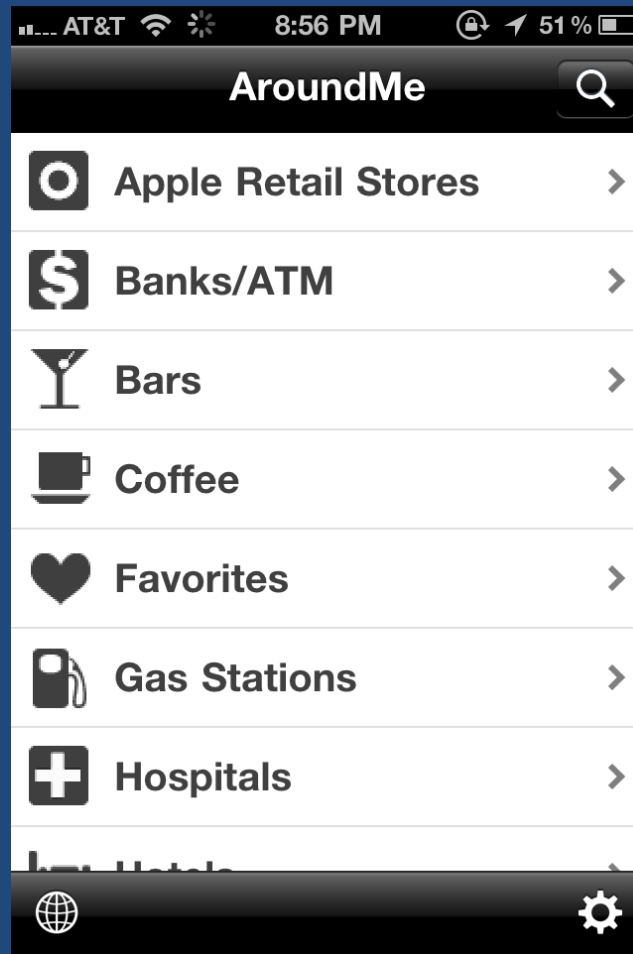
SUNDAY		74° 48°
MONDAY		80° 56°
TUESDAY		85° 62°
WEDNESDAY		84° 61°
THURSDAY		81° 61°
FRIDAY		72° 60°

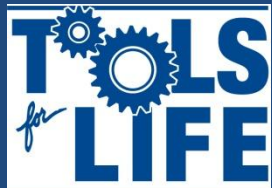
Y! Updated 4/17/11 8:55 PM i





Georgia's Assistive  
Technology Act Program





Georgia's Assistive  
Technology Act Program

Dragon Search

Tap and speak.

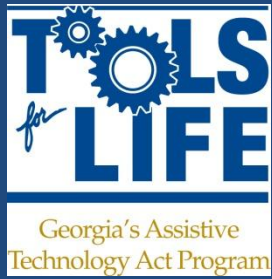


Wisteria restaurant Atlanta Georgia

Radial café Candler park Atlanta

Clear Search History

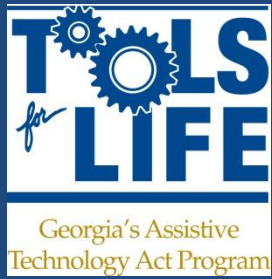




# ADDITIONAL RESOURCES

- American Foundation for the Blind
  - [www.afb.org](http://www.afb.org)
- AccessWorld
  - [www.afb.org/accessworld](http://www.afb.org/accessworld)



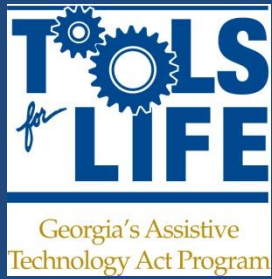


# FREE ADAPTIVE TECHNOLOGY SUPPORT

- Chicago Lighthouse for the Blind

Toll Free Number:

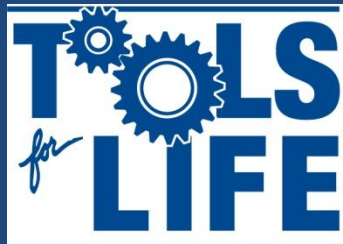
- 888-825-0080
- Email: [ray.campbell@chicagolighthouse.org](mailto:ray.campbell@chicagolighthouse.org)



# Help Us Improve

- Please take a moment to complete our survey

<http://www.surveymonkey.com/s/R325kJX>



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THANK YOU!