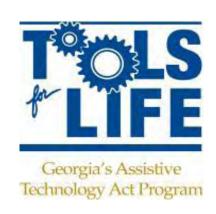


Assistive Technology Strategies & Solutions for Aging Well

Carolyn Phillips, Martha Rust and Liz Persaud

With contributions from Ben Satterfield www.gatfl.gatech.edu





This Session is being Recorded

 You will be able to access the archive of this and other webinars at www.gatfl.gatech.edu





Credits

- CEUs are Approved for .15 clock hours and are administered through Georgia Tech Professional Education
- CRCs are Approved for 1.5 clock hours by the Certified Rehabilitation Counselor Certification
 - To receive your verification form, send an e-mail with the webinar title and date, your full name, organization, city, state, e-mail address and date of birth to <u>Liz.Persaud@gatfl.gatech.edu</u>





Webinar Evaluation

At the end of today's webinar, we ask that you please take a moment to complete our survey:

https://www.research.net/s/TFLwebinar

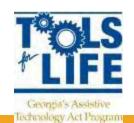




Agenda

 Welcome to the Assistive Technology revolution! The world around us is evolving at an astounding rate. Assistive Technology developments have been foundational in this evolution and a catalyst producing positive life-changing results for individuals with disabilities. This talk will present what's new in AT and in the AT community as we explore where we were, where we are, and perhaps. where we are going.

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





Accessibility Made Smart

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

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

For more information, please visit our website at www.amacusg.org



Tools for Life Mission

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

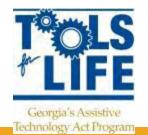






Tools for Life Georgia's Federal AT Act Program

- TFL developed Georgia's Plan for AT
- We serve individuals of all ages & disabilities in Georgia
 - Over 50,000+ thru various activities throughout the year
- TFL Network
 - Assistive Technology Resource Centers
 - Lending Libraries
 - Training and Demonstrations
 - AT Reuse
 - AT Funding Education/Assistance and Resources
- Online Resources at <u>www.gatfl.gatech.edu</u>

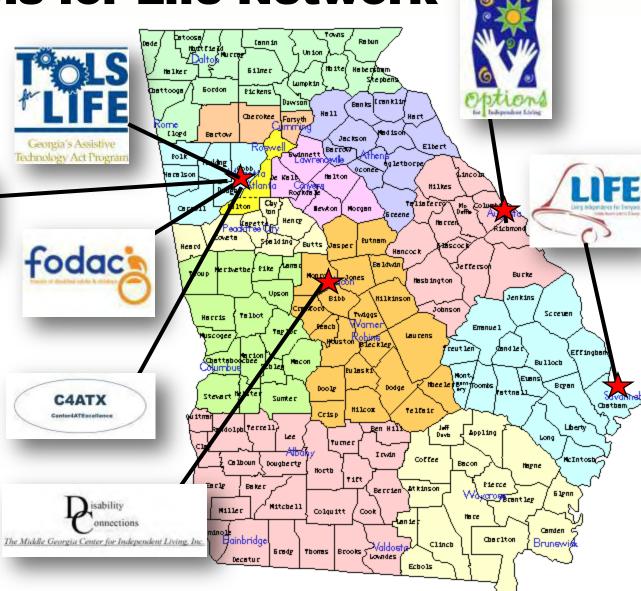




Tools for Life Network



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



WALTON





TFL NETWORK ASSISTIVE TECHNOLOGY

CALENDAR OF EVENTS



Search our Site



TRAINING

FUNDING

PUBLICATIONS

TFL WIKI

MEET THE TFL TEAM

MEET THE ADVISORY COUNCIL

DIRECTIONS/MAP

JOIN OUR MAILING LIST

SCHEDULE A TOUR



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.

IDEAS CONFERENCE

JUN

Epworth by the Sea, St Simons

WEBINARS

MAR 20

Low Tech Strategies for Teaching Communication to Children with Cortical Visual Impairments

MAR 26

AT for Aging in Place

APR

The Write Apps for Note Taking

- Current Webinar Schedule
- Webinar Archives

TOOLS FOR LIFE APPFINDER



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

AT ONLINE EXCHANGE



































TFL AppFinder



Search by:

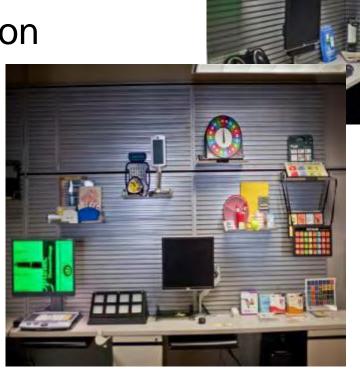
- ✓ App Name
- ✓ Categories
 - Book
 - Education
 - Environmental Adaptations
 - Hearing
 - Cognition, Learning, Developmental
 - Navigation
 - Personal Care and Safety
 - Productivity
 - Communication
 - Therapeutic Aids
 - Vision

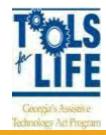




Tools for Life AT Demo Lab

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







Aging in Place: Questions to Consider

- Entrances
- Hallways
- Staircases
- Kitchen
- Bathrooms
- Bedrooms
- Living room
- Storage Spaces



Safety questions for the exterior and entrances include:

- ☐ Is there adequate lighting to see walkways and entrances?
- ☐ Are steps in good repair and do they have non-slip surfaces?
- ☐ Are there handrails for the steps and are handrails securely fastened?
- ☐ Do the handrails run continuously from the top to the bottom of the entire flight of stairs?



Safety questions for the exterior and entrances

- ☐ Are walkways and entrances free of objects that could be tripped over?
- ☐ Can you clearly see the edges of steps?
- ☐ Are entrances wide enough to provide unobstructed entering with or without an assistive device, such as a wheelchair?



Strategies & Solutions for...Entrances/Doorways

- Widen exterior walkways for safety.
- Widen entrances and doorways to provide easier access for both wheelchair users and non-users; minimum doorway width for wheelchair passage is 32 inches.
- Install handles, pulls, latches, and locks on doors that are easier to grasp with one hand and that do not require tight grasping, pinching, or twisting.
- Place lever, push types, or U-shaped handles over existing round doorknobs to allow easier opening of doors.
- Lower thresholds to allow safer and easier entrance for wheelchair users and non-users.

Entrances

 Half-Step- consider using if the first step is too large, works for indoor and outdoor stairs

 Anywhere lighting- Such as stick-n- click or Push on Lights to brighten up dark staircases Skid resistant indoor/ outdoor rugs/ mats

Keyless locks





Handrails/ grab bars





Safety questions for proper lighting

- ☐ Do areas have adequate lighting for reading, seeing where one is walking, and performing activities?
- ☐ Are light bulbs the appropriate size and type for the lamp or fixture?
- ☐ Are light switches accessible to a person before entering rooms?
- ☐ Are lights glare-free?



Strategies & Solutions for...Lighting

- Add lighting to poorly lit areas of a home, both interior and exterior.
- Install motion sensitive lighting to the exterior of the home for security and visibility for safe mobility.
- Use the highest wattage bulb allowed for light fixtures.
- Use non-glare light bulbs.
- Lower light switches for people in wheelchairs to access.
- Install touch or rocker type light switches for persons with minimal hand use.



stairs?

Safety questions for stairways

~ Tammy Irion

☐ Are stairways adequately lighted? ☐ Are handrails present on at least one side of the staircase? ☐ Are the handrails securely fastened to walls? ☐ Do the handrails run the entire length of the flight of stairs? ☐ Are the step edges clearly visible? ☐ Are stairways free of objects? ☐ Are light switches located at the top and bottom of

Staircases

 Stair lifts- look for one with a seat configuration that is height-adjustable, compact and folds up (so others in your house can use the stairs). The ideal stair lift should also have a full backrest for maximum seated comfort.

 Half-Step- consider using if the first step is too large, works for indoor and outdoor stairs Anywhere lighting- Such as stick-n- click or Push on Lights to brighten up dark staircases







Hallways

Anywhere lighting- Such as stick-n- click or Push on Lights to brighten up dark staircases

Organize cords- cost efficient use toilet paper

rolls



 Smoke alarm for deaf/hard of hearing









Safety questions for flooring/rugs/obstructions

- ☐ Are carpet edges taped or tacked down?
- ☐ Are all rugs and mats slip-resistant?
- ☐ Is the flooring slippery?
- ☐ Are rooms free of obstructions to allow safe mobility?
- □ Are rooms set up to promote easy and safe mobility?



Strategies & Solutions for...Flooring

- Replace glaring or slippery flooring with non-glare and non-slip flooring.
- Remove any throw rugs that may be a fall hazard.
- Replace rugs without non-slip backing with rugs that have slip-resistant backing or add non-slip material to back of rugs.
- Widen hallways to four feet wherever possible, allowing enough room for easy mobility.



Safety questions for electrical outlets and cords

- ☐ Are electrical cords in good condition?
- ☐ Do outlets and switches have cover plates?
- ☐ Are cords placed out of the flow of traffic?
- ☐ Are cords out from beneath furniture and rugs or carpeting?
- □ Do extension cords carry more than their proper load?
 Tammy Irion



Modifications for mobility

- Remove cords or place cords out of the way for safety and easier mobility.
- Rearrange rooms for better flow.
- Install grab bars for support.
- Provide areas to sit and rest in different areas for persons who fatigue easily.



Safety questions for telephones

☐ Are emergency numbers posted on or near telephones?

□Do you have access to a telephone if you fall?



Strategies & Solutions for...Phones

 Arrange telephones around the house to provide access in case of a fall.

Tape emergency numbers to all phones.

 Install an intercom system for people with limited mobility to eliminate the need to get up.



Safety questions for alarms

- □ Are smoke detectors and carbon monoxide detectors properly located?
- Do the smoke detectors and carbon monoxide detectors work properly?
- ☐ Do you have an emergency exit plan in the event of a fire?



Safety questions for Storage areas

- □ Is there adequate lighting, especially in areas of power tool use?
- □ Are light switches located, so a person does not have to walk through a dark area?
- □ Are containers of flammable/hazardous liquids properly labeled and tightly capped?
- □ Are containers of flammable/hazardous liquids stored out of living areas and away from other materials that may cause sparks?
- □ Do power tools have a 3-prong electrical plug that is used as a grounding feature?



- Lighting
- Cords organized
- Boxes proper weight
- Consider storage that has pull out drawers
- Reachers
- Step stool



Strategies & Solutions for...Storage

- If possible, locate all storage areas within the shoulder to waist area, eliminating the need to bend down or to stand on tiptoe.
- As with doors, replace cabinet and drawer hardware with handles, pulls, and latches that are easier to grasp with one hand and that do not require tight grasping, pinching, or twisting.



AT Solutions: Storage

- Lighting
- Cords organized
- Boxes proper weight
- Consider storage that has pull out drawers
- Reachers
- Step stool



Dotz Cord Identifiers

Color-coded cord identifiers instantly answer the question of which plug goes with what \$8.29 for a pack of five at Office Depot

Photo technological





Safety questions for the kitchen

- ☐ Are all flammable objects located away from the range?
- □ Do you wear clothing with short or close-fitting sleeves when using the range?
- ☐ Are ventilation systems working properly?
- □ Are all electrical cords located away from the sink and range?
- ☐ Are storage areas easily reached without having to stand on tiptoe or on a chair?



Safety questions for the kitchen

- □ If you have a stepstool, is it in good condition, strong enough to support you, and does it have non-slip surfaces?
- ☐ Are chairs without wheels armrest equipped and of proper height for safe transfers?
- ☐ Are linoleum floors slippery?
- ☐ Do outlets have ground fault interruption?



Strategies & Solutions Kitchen

- Install a wall oven for appropriate height and access.
- For wheelchair users, install or modify floor cabinets to allow toe space at the bottom for footrests.
- Use a side-by-side refrigerator with adjustable shelves and drawers.
- Install adequate counter space to allow for sliding of heavy items and to eliminate heavy lifting.



Strategies & Solutions Kitchen

- Install turntables for easy access of items.
- Install easy-glide pull-out shelving to decease the need for reaching and bending.
- Adapt or replace knobs on appliance controls to a larger size for easier use.
- Install ground fault interruption outlets.



- Automatic soap dispensers
- Automatic trash cans
- Automatic appliances (can openers)
- Jar grippers/Jar openers
- Adaptive utensils/ cups/ plates
- Adaptive cutting boards
- Fire alarm for deaf/ hard of hearing
- Motion sensor faucets

- Smart appliances (fridge)
- Pill reminder with alarm
- Pullout drawers for cabinets
- Push on lights
- Reachers
- Talking scales
- Color coded measuring cups/ spoons
- Longer sleeved pot holders
- Step stool

























AC Modifications to Water Controls

 Install a single-handed control that controls both temperature and water flow.

 Install hot water feeds and draining pipes to prevent scalding.

 Install thermostatic valves to regulate water temperature and prevent scalding.



Safety questions for Living Room

- □ Are chimneys clear of any material that may clog them?
- ☐ Has the chimney been cleaned in the past year?
- ☐ Is there a guard on the front of the fireplace to block embers and sparks?
- ☐ Are passageways well lit?
- ☐ Are exits and passageways kept clear of obstructions?
- □ Is all furniture at a height to allow for easy sitting and standing?



- Non-Slip rugs
- Proper height furniture
- Remote for TV
- TV Ears
- Magifier
- Stands for books/ tablets/ food
- Cords organized

- Lighting
- Environmental controls for Lights/ blinds/ etc
- Easy to reach phones
- Easy assist lift for chairs



AT Solutions: Living Room

- Non-Slip rugs
- Proper height furniture
- Remote for TV
- TV Ears
- Magnifier
- Stands for books/ tablets / food
- Cords organized (declutter)

- Lighting
- Environmental controls for Lights/ blinds/ etc
- Easy to reach phones
- Easy assist lift for chairs









Safety questions for the Bedroom

- □ Are lamps or light switches within reach of each bed?
- ☐ Do you ever go to sleep with a heating pad that is turned on?
- □ Are beds of appropriate height to allow safe on and off transfers?
- □ Can you reach objects from closets and shelves without standing on tiptoe or on a chair?
- ☐ Do outlets have ground fault interruption?



Strategies & Solutions Bedroom

 Rearrange furniture closer to light switches or more lamps closer to beds.

 Convert a room close to the bath and toilet rooms for convenient access.

 Elevate the bed to allow for easier transfers on and off the bed.



- Lighting
- Talking alarms
- Bed shaker
- Dressing stick
- Long handle shoe horn
- Easy to reach bedside lights
- Easy to reach phone

- Cord organizer
- Night lights
- Chair (for getting dressed if needed)



AT Solutions: Bedrooms

- Lighting
- Talking alarms
- Bed shaker
- Dressing stick
- Long handle shoe horn
- Easy to reach bedside lights
- Easy to reach phone





- Cord organizer
- Night lights
- Chair (for getting dressed if needed)







Safety questions for the bathroom

- □ Do bathtubs and showers have non-slip surfaces?□ Is the water temperature 120 degrees or lower?□ Are electrical appliances unplugged when not in use?
- ☐ Are electrical appliances and cords away from the sink and/or bathtub?
- ☐ Are medications properly labeled and stored in the containers they came in?
- ☐ Are toilet seats high enough to allow for ease in transfers?

Bathrooms

- Non-slip floor/ tiles
- Automatic soap/ toothpaste dispenser
- Universal quad cuff (tooth bush/ hair brush)
- Anti-fog mirror
- Grab bars
- Talking scales
- Lightening
- Shower chair

- Moveable shower head
- Chair (sit to do hair/ makeup)
- Heated floors
- Heated towel rack
- Floss Aide
- Automatic dryer
- Raised toilets
- Night lights
- Grippers for faucets





















Strategies & Solutions Bathroom

- Configure fixtures and accessories so a person can easily maneuver without obstructions.
- Install automatic faucets, hand dryers, and soap/shampoo dispensers for a person with limited hand function and upper-body strength.
- Use a shower curtain instead of a shower door for easier access to the shower.
- Install an anti-scald device and a hand-held shower head.
- Install ground fault interruption outlets.



Strategies & Solutions Bathroom

- Install a wide, walk-in shower with no lip for wheelchair users.
- Lower counters for wheelchair users.
- Eliminate throw rugs and replace with non-slip flooring or non-slip mats.
- Install raised toilet seats for easier transfers.
- Install grab bars in the shower/bath and by the toilet for stability and safety.
- Position toilet flushing device and toilet paper within easy reach.



Looking Back to See Forward...

In 1990, the internet was something used by fantasy baseball fanatics on CompuServe and mobile phones were the size of toddlers — a luxury for those who could afford to not use pay phones. Satellite TV meant having a massive dish on your property; millions struggled with programming their VCRs to tape L.A. Law; bills were paid by check... in the mail.



Future

- Evening out the playing field
- The Future is Contextual
 - GPS apps
 - Ads on Internet
 - Smart watches
 - Social Media
 - Proust.com



Martha Rust

PROUST*



Know the ones you love.

A way for you and your family to share and preserve your memories, one question at a time.



CREATE THE DIGITAL STORYBOOK OF YOUR LIFE

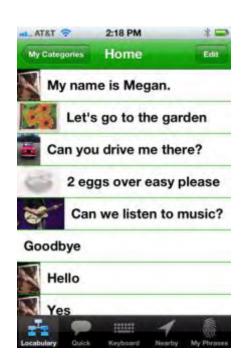


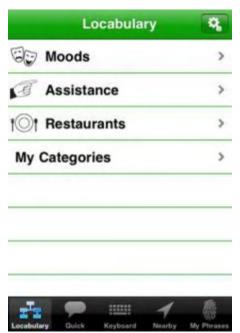




Locabulary







- Uses GPS to track user location and suggests appropriate vocabulary based on location
 - ie: McDonald';s starbucks
- A keyboard to type for text-tospeech
- User can tag their own locations and create vocabulary for each location
- Lite version Free; Pro version \$130



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

AMAC Accessibility for All

Scope

- Research (Rogers)
 - R1. User Needs (Rogers, Fain, Jones)
 - R2. Effects of Hearing Loss (Bruce, Echt)
 - R3. Exercise Telerobotics (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

ABOUTUS

PROJECTS

PUBLICATIONS / PRESENTATIONS

NEWSROOM

Home » Projects » Development Projects » App Factory (D1)

Text Size: 1 Increase Decrease Normal Current Size: 100%

Projects

Research Projects

Development Projects

Training Projects

Connect with Us!

Like us on Facebook

Follow us on Completer

SUBSCRIBE TO NEWSLETTER

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

<u>Technology Transitions Policy Task</u> <u>Force Workshop</u>

More News

Upcoming Events

September 30, 2013 - 7:00am

STEM Diversity Career Expo



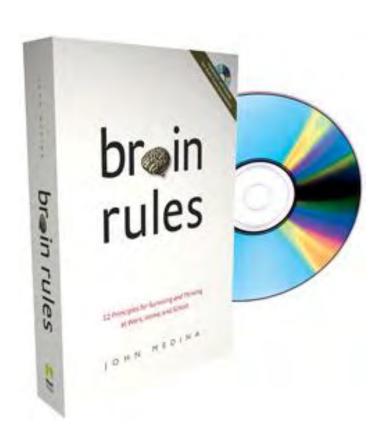
Neuroplasticity Research

Neuroplasticity research has established, beyond doubt, that instead of being a static cell mass, our brain is actually a dynamic system of neural networks that has the capability of significant growth under favorable circumstances.

Rudraprosad Chakraborty, M.D.



12 Brain Rules – John Medina Ph.D.



The brain is an amazing thing. Most of us have no idea what's really going on inside our heads. Yet brain scientists have uncovered details every business leader, parent, and teacher should know.

Dr. John Medina- Developmental Molecular Biologist NEW YORK TIMES BESTSELLER

NORMAN DOIDGE, M.D.

As Featured on PBS's The Brain Fitness Program

THE



BR (IN)
THAT CHANGES

ITSELF

Stories of Personal Triumph from the Frontiers of Brain Science

"The power of positive thinking finally gains scientific credibility.

Mind-bending, miracle-making, reality-busting stuff... Straddles
the gap between science and self-help." —The New York Times

NEW YORK TIMES BESTSELLER

NORMAN DOIDGE, M.D.

As Featured on PBS's The Brain Fitness Program

THE NEW YORK TIMES AND INTERNATIONAL

THE NEW YORK TIMES:

"The power of positive thinking finally gains scientific credibility. Mindbending, miraclemaking, realitybusting stuff...with implications for all human beings, not to mention human culture, human learning and human history."

OLIVER SACKS, MD:

"Fascinating. Doidge's book is a remarkable and hopeful portrait of the endless adaptability of the human brain."

THE LONDON TIMES:

"Brilliant...Doidge has identified a tidal shift in basic science...The implications are monumental."

V.S. RAMACHANDRAN, MD, PHD:

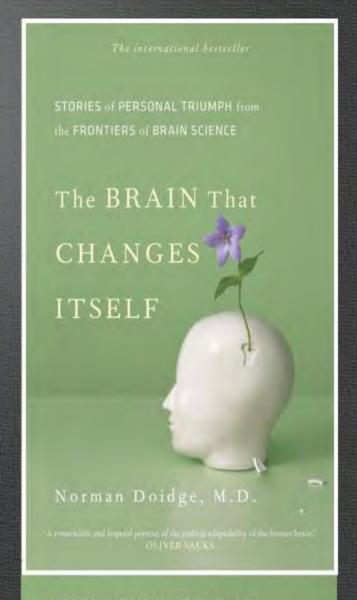
"Superb. Brilliant, I devoured it."

ABOUT THE BOOK

THE BRAIN CAN CHANGE ITSELF It

is a plastic, living organ that can actually change its own structure and function, even into old age. Arguably the most important breakthrough in neuroscience since scientists first sketched out the brain's basic anatomy, this revolutionary discovery, called neuroplasticity, promises to overthrow the centuriesold notion that the brain is fixed and unchanging. The brain is not, as was thought, like a machine, or "hardwired" like a computer. Neuroplasticity not only gives hope to those with mental limitations, or what was thought to be incurable brain damage, but expands our understanding of the healthy brain and the resilience of human nature.

Norman Doidge, MD, a psychiatrist and researcher, set out to investigate neuroplasticity and met both the brilliant scientists championing it and the people whose lives they've transformed.



the FRONTIERS OF BRAIN SCIENCE



Overview

Georgia Institute of Technology

Opportunities

Human Factors & Aging Laboratory

We are able to implement various methodologies to address many types of research questions -Tracy Mitzner

Publications



Points of Excellence

 Our research advances both science and practice

Projects

- We aim to improve quality of life for adults of all ages
- Students graduating from our lab are very successful

Resources

i Senior-to-Senior Brochure

Sponsors

Overview of the Human Factors and

People

Aging Laboratory



Increase/Decrease Font S



Participant Information (F



Older Adults



Younger Adult

News

Science20 featur



We maintain a basic theoretical grounding while solving applied problems. - Andrew Mayer, Alumnus.



Overview

Projects

Opportunities

Publications

People

Photos

News

Links

Contact Us

Projects

Healthcare

Keeping Older Adults Healthy in Senior Living Communities

Understanding Use Errors for Medical Devices

Understanding Older Adults' Memory Issues in the Home

Gist Memory Project

Age-Related Differences in

Fraction Comparison

Human Factors Issues of Home Health Care Providers

Pain Management Among Older Adults

Below is a list of current projects in the HFA lab. To view a list of past or completed projects, please visit our archived projects page.

Healthcare



Identifying Strategies to Keep Older Adults Healthy in Senior **Living Communities**

Contact Person: Sara McBride

Many older adults choose to make the transition into senior living

communities, such as independent living or assisted living. We are interested in understanding the types of strategies used and decisions made by staff in these types of communities that are aimed at supporting residents' health. By identifying these processes, we may be able to improve training or design decision support systems that could facilitate portions of the decision making process.

Increase/Decrease Font Size:



Participant Information (PDF):



Older Adults



Younger Adults

Problem. Solve

Working with GTRI

Government Solutions Industry Solutions Professional Education Contract Vehicles Ethics & Compliance

Case Studies

All Case Studies By Research Area By Customer By Location

Locations

Labs
Interdisciplinary Research
Centers
Field Offices
Testing Facilities
Buildings

Newsroom

Latest Stories GTRI in the News Annual Reports Media Inquiries

About Us

Careers People & Culture History » Research & White Papers

GTRI FACTS

21 locations in the US and Ireland

75 years of experience

1600+ people

QUICKLINKS

- · Research Laboratories
- Centers
- Latest Annual Reports
- GTRI Publications
- All Case Studies

Industry Solutions > Health & Human Systems > Product Testing Network: Georgia Tech Launches HomeLab to Help



Product Testing Network: Georgia Tech Launches HomeLab to Help Companies Evaluate In-Home Use of Emerging...

CASE STUDY

Product Testing Network: Georgia Tech Launches HomeLab to Help Companies Evaluate In-Home Use of Emerging Health Technologies

Baby boomers have witnessed many technological innovations, and they expect technology to provide them with solutions to help maintain their independence for as long as possible. They are outfitting their homes with products to help them live healthy lifestyles, manage chronic conditions, remember to take medications and remain connected with their caregivers.

To help companies evaluate baby boomers' perceptions, use and acceptance of home health and wellness technologies, the Georgia Institute of Technology has launched HomeLab. HomeLab is a statewide network of adults 50 years of age and older recruited to evaluate the in-home usability and effectiveness of consumer products designed for the aging adult population.

HomeLab currently consists of 100 homes distributed throughout the state of Georgia; the network is expected to grow to 150 homes later this year and 550 homes by 2014.



acceptance, contexts for the discussion will include aging-in-place and hearth care.

Presentation 2: Human-Robot Interaction: The Potential to Support Successful Aging



Philips iCat

There is much potential for robots to support older adults in their goal of independent aging. However, for human-robot interactions to be successful, the robots must be designed with user needs in mind.

In the <u>Human Factors and Aging Laboratory</u>, Roger's lab is conducting research in the nascent field of older adult—robot interactions. In this presentation, Rogers

will provide an overview of the needs, capabilities, preferences, and limitations of older adults. She will then discuss our current and planned research on the design of robots to support older adults and health care providers. Our focus is on understanding the interactions among user characteristics, robot characteristics, and the context of the interactions (e.g., task demands).



GATSBII-Georgia Tech Service Bot with Interactive Intelligence

Presentation 3: Aware Home Technology to Support Aging-in-Place

Imagine if your home were "aware" of your activities so that it might help you remember what it was you went into the kitchen for or whether the visitor at the front door is someone you know or even what the proper procedure is for performing a recently learned home medical procedure. An aware home is not from the world of science fiction—it is within the realm of science. Such technological developments have the potential to enable older adults to maintain their functional independence and to "age-in-place." They also have the potential to support families caring for children with developmental disabilities or individuals recovering from illness or injury. An inputative research program at Coopeia Institute of Technology in

Aware Home at Georgia Tech



injury. An innovative research program at Georgia Institute of Technology is focused on developing psychological and computer science to support home activities.

The presentation will include examples of health care technology, communication technology, and memory supports. These examples demonstrate the complexity of the issues involved in designing the computationally capable home of the future and provide direction for future research and development efforts.

Solutions

Overview

Products and Services

What is VGo?

How does it work?

How does it compare?

How much does it cost?

Benefits

Applications

Quick Links

Request Info Drive a VGo Attend a Webinar Latest VGo News Download VGo App

Products and Services

VGo is an all-in-one solution that includes everything you need to establish your physical presence in a distant location.

With the VGo solution, an individual's presence is replicated in a distant location such that they can interact and perform their job in ways not previously possible. Now they can see, be seen, hear, be heard and move around in any remote facility—just as if they were there. VGo will enable businesses to increase productivity of remote and travelling employees, healthcare providers to deliver lower cost services and improved quality of care, and homebound students to attend school—all with a great user experience and at an affordable price.

What is VGo?

How does it work?

How does it compare?





VGo Telepresence Robot

- Enables a person to replicate themself 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



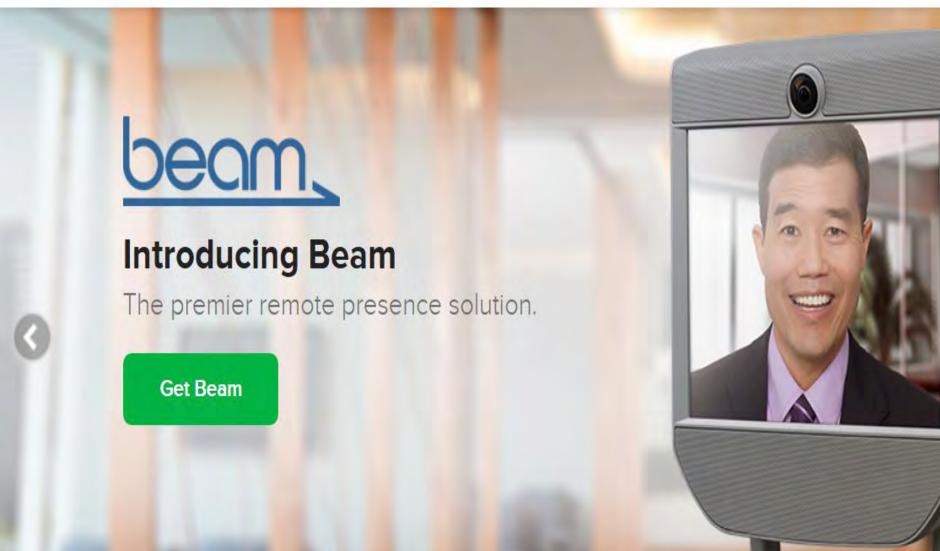


Beam

About Us

Careers

Contact Us





Home

Innovation

Solutions *

Newsroom

Humankind v

Blog

Contact Us ~

Search

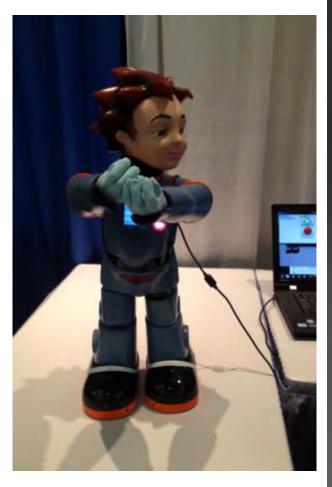
"Exploring New Ideas with Advanced Social Robotics"

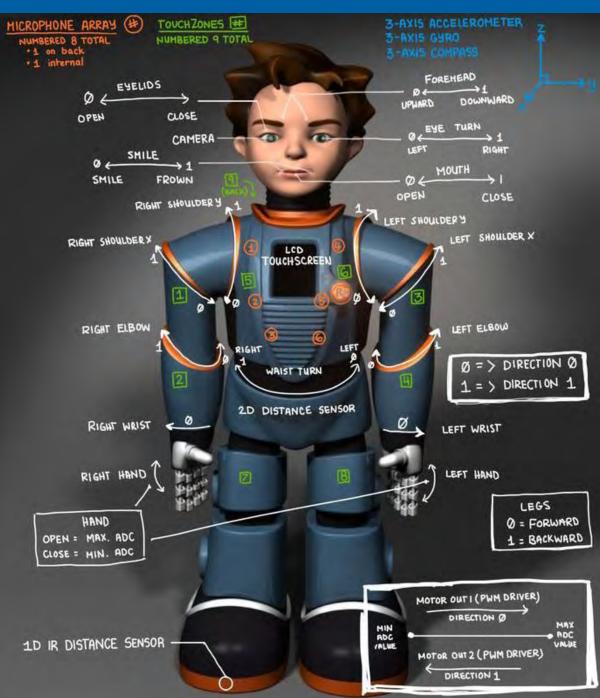
- an extension of humankind, RoboKind.













Meet NAO!





Picture of the Mealtime Partners Mounted on the Support Arm

Individuals who have limited range of upper body control or who fatigue easily from the effort of controlling their body movement should use the Partner mounted on the Support Arm. The Support Arm allows the Partner to be positioned so that the spoon, when extended out from the device, is positioned very close to the user's bottom lip. With the Partner positioned this way, the user only has to lean forward slightly to take food off of the spoon, thus the user exerts very little effort.

Georgia Tech



Home

About Me

Office and Lab

Research

Students

Teaching

Events

Publications

Related Links

In the News

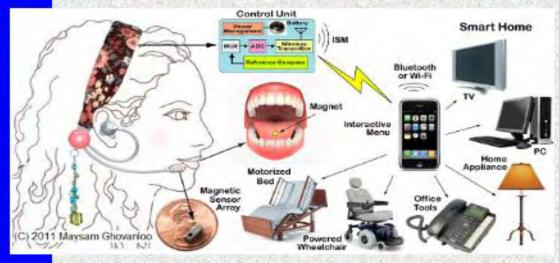
Sponsors

Openings



School of Electrical and Computer Engineering

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





Intraoral Tongue Drive System (iTDS) Technical info

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. ₹

MENU + RESIDER CONNECT THE LATEST

Electronic Sensors Printed Directly on the Skin

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

By Mike Orcult on March 11, 2013



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 "egidermal electronics" were demonstrated previously in research from the lab of John Floogra, a materials scientist at the University of Illinois at Urbana-Champeign; 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 elestomer 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 grint the electronics right on the skin, making the device more durable and rugged.



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.

"What we've found is that you don't even need the

Eliminating the elastomer backing makes the device

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

Image shows a colorized

system mounted on a skin replica.

micrograph of an ultrathin mash electronic

one-thirtleth 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.



WHY IT MATTERS

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



HOME PRODUCTS TECHNICAL SUPPORT COMPANY EDUCATION MEET OUR CLIENTS FUNDING

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....







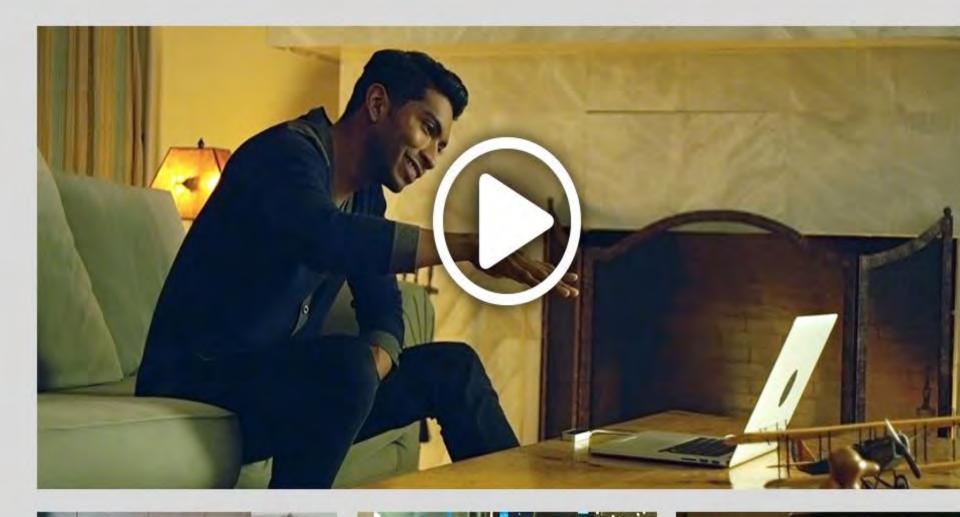
Specialty Products & Adaptors

Specialty Products & Adaptors

Specialty Products & Adaptors



OUR DEVICE APPS DEVS BLOG SETUP SUPPORT BUY STAY INFORMED



Google announces Calico, a new company focused on health and wellbeing

6

MOUNTAIN VIEW, CA – September 18, 2013 – Google today announced Calico, a new company that will focus on health and we in particular the challenge of aging and associated diseases. Arthur D. Levinson, Chairman and former CEO of Genentech and C Apple, will be Chief Executive Officer and a founding investor.

Announcing this new investment, Larry Page, Google CEO said: "Illness and aging affect all our families. With some longer term, thinking around healthcare and biotechnology, I believe we can improve millions of lives. It's impossible to imagine anyone better Art—one of the leading scientists, entrepreneurs and CEOs of our generation—to take this new venture forward." Art said: "I've do much of my life to science and technology, with the goal of improving human health. Larry's focus on outsized improvements has me, and I'm tremendously excited about what's next."

Art Levinson will remain Chairman of Genentech and a director of Hoffmann-La Roche, as well as Chairman of Apple.

Commenting on Art's new role, Franz Humer, Chairman of Hoffmann-La Roche, said: "Art's track record at Genentech has been and we see an interesting potential for our companies to work together going forward. We're delighted he'll stay on our board."

Tim Cook, Chief Executive Officer of Apple, said: "For too many of our friends and family, life has been cut short or the quality of too often lacking. Art is one of the crazy ones who thinks it doesn't have to be this way. There is no one better suited to lead this related to see the results."

Contact

Leslie Miller

Google Corporate Communications

Ten days with Google Glass

By Will Shanklin December 23, 2013 14 Comments 🤝 7 Pictures 💻

www.lenscrafters.com

Official Site. Visit Us Now & Save! Designer Eyewear, Lenses, & More.



























Glass Explorer program

Image Gallery (7 images)

Here at Gizmag, we're very interested in the present and future of we tech. So we thought it was fitting to sign up for the Google Glass Exprogram, to give you a better idea of what Sergey Brin and compartments up in Mountain View. Though we aren't quite ready to diproper Google Glass review, we want to share some more thou our first ten days with Glass.









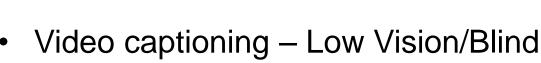


Captioning



- Hearing related disabilities & Cognitive processing
 - Captioning TV, Movies, etc.
 - Live remote captioning for events
 - CART Word for word
 - C-Print complete thoughts

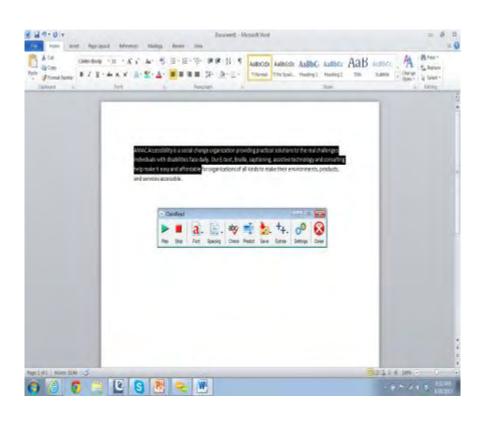






Scre

Screen Reading Software

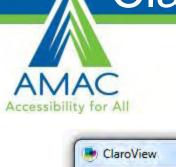


Claro Read is one example

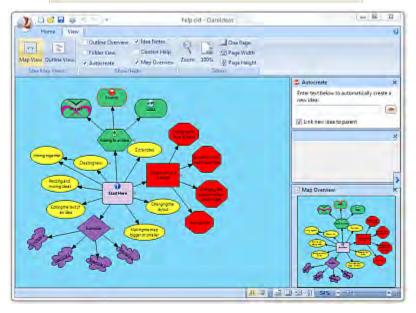
- For PC or Mac
- Reads aloud any print that is highlighted
- Floating toolbar
- Quickly and easily change the font size
- Change colors and spacing
- Check definition and meaning of words
- Additional voices available for PC

ClaroRead for PC Overview

Claro Read add-ons







ClaroView

- Adjust screen color and tint ClaroCapture
- Organize notes from various files

Claroldeas

- Visual graphic organizer
 Screen ruler
- Highlights and magnifies screen in a horizontal band

Premier Software

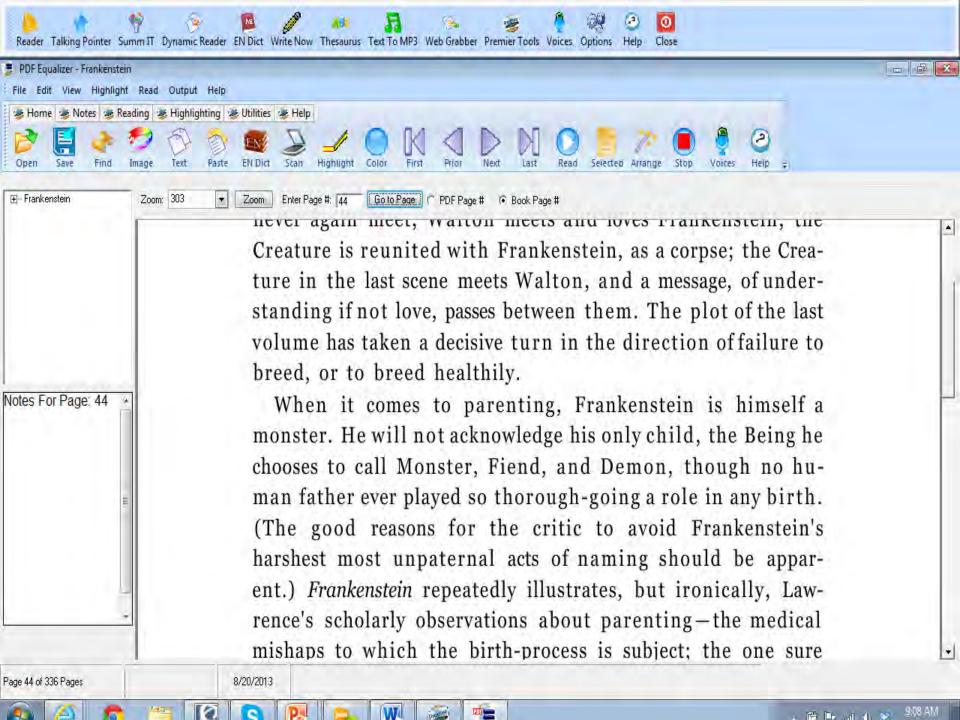


- www.readingmadeeZ.com
- Read documents in PDF, Microsoft Word, HTML, Rich Text, text file format
- Convert to audio files for use on a CD or MP3 player
- Scan and read documents
- Look up a word or definition in the integrated dictionary
- Create study notes and much more



Premier Features

- PDF Equalizer (example on next slide)
- E-Text Reader
- Universal Reader Plus
- Scan and Read Pro
- Talking Word Processor
- PDF Magic Pro
- Text-to-Audio
- Ultimate Talking Dictionary
- Talking Calculator
- Premier Predictor Pro













Microsoft Surface

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





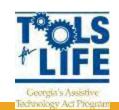




Samsung Galaxy



- Download Accessibility Features
- 7 inch or 10 inch screen available
- Compatible with flash/ WIFI
- 8.0 coming out February2013 in Europe
- 8.0 will have a better camera and use a SIM card for storage
- Starts at \$199.99 but 8.0 may be more





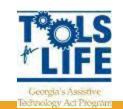


Apple iPad mini

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



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





LET'S EXPLORE OUR FAVORITE APPS!











Apps for Daily Living





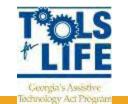


MyMedSchedule



- Keep track of medication
- Reminders
- Refill Reminders
- Healthcare Provider Profiles
- Insurance Information
- Allergies
- Works across Platforms
- Free
- www.mymedschedule.com







Apps for Shopping

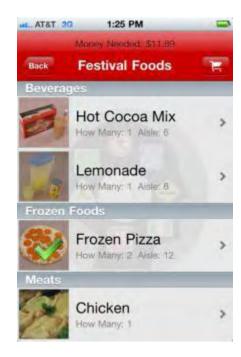




Shopping List Generator



- Pictorial shopping list
- Customize different lists for different users using pictures on camera roll
- Add your own items and categories
- Assign item prices
- Assign item locations (for example, aisle numbers)
- Several accessibility options
 - text-to-speech
 - uses large easy-to-see images
 - item prices automatically totaled
- \$4.99

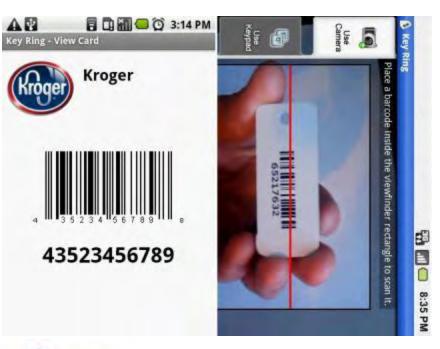








Key Ring



- One Place to store all reward cards
- Organized
- Android & Apple version
- www.keyringapp.com
- Free!



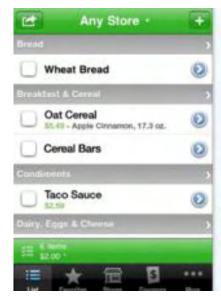




Grocery IQ



- Pictorial shopping list
- Customize different lists for different users using pictures on camera roll
- Add your own items and categories
- Assign item prices
- Assign item locations (for example, aisle numbers)
- Several accessibility options
 - text-to-speech
 - uses large easy-to-see images
 - item prices automatically totaled
- \$4.99









Apps for Current Events











- Current Events in order
- Breaking News Alerts
- Videos
- Photos and Text
- Pick Favorite Interests
- Free





SkyGrid



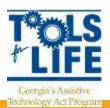
Sky Grid

- Personalize news events by categories
- Simple interface
- Free
- www.skygrid.com





Apps for Social Networking/Staying Connected





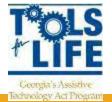


Facebook





- Connect with friends
- Create photo albums to share
- Create Events
- Instant Messaging
- Group Messaging
- Free





Instagram



- Free
- Share videos and photos with friends and followers
- Send posts directly to friends







Tango

- Make video and phone calls across mobile platforms
- Group chats
- Works on tablets & PCs
- http://www.tango.me
- Free











iMovie 🕍



- Share information via Facebook, Twitter, Email, or SMS
- Upload photos



Apps for Fitness







Sleep Cycle



- Tracks your sleep patterns
- Uses iPhone accelerometer to track how often you move at night
- Set an alarm range
- Woken up gradually when you are in like sleep
- Feel refreshed and energized
- \$2.99





EveryTrail

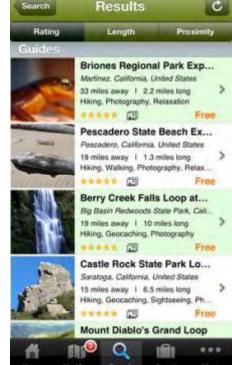


Pod 🤝



- Tracks route using your iPhone GPS
- Use with walking tours, biking, running, hiking, sailing and driving
- Travel map is visible and drawn while trip is in progress
- Plot camera photos and video on map instantly
- View stats (distance, speed, elevation and more) while tracking
- View topography and terrain maps on iPhone
- Download maps for offline viewing
- Free





2:55 PM



Apps for Nutrition



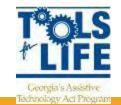


Fooducate



- Track calories
- Provides healthier options
- Educates on food ingredients
- Save favorites
- Create lists
- App for allergies and gluten-free
- App for diabetes nutrition
- Free
- www.fooducate.com









Happy Cow







- Interactive map to locate vegan, vegetarian and health food stores
- Provides directions, phone numbers, & website
- Share information via Facebook, Twitter, Email, or SMS
- Upload photos
- \$2.99



Apps for Organizing

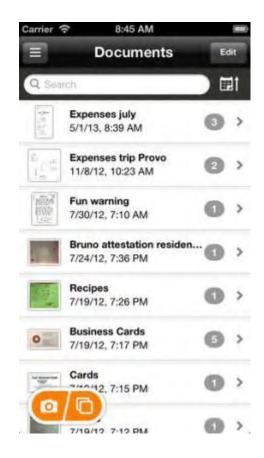




Genius Scan



- Scan documents or handwritten notes
- Email the scans as JPEG or PDF
- Free
- Genius Scan Plus (\$2.99) allows upload to Dropbox, Skydrive or Evernote









Bump





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







Apps for Writing

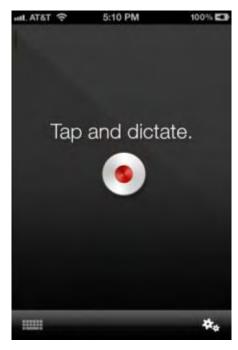




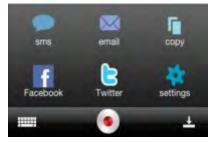


Dragon Dictation





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



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





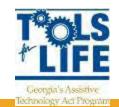


AudioNote





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

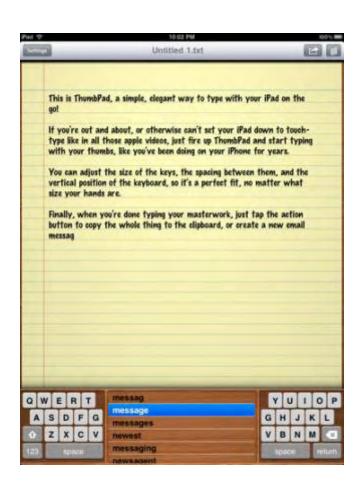






ThumbPad





- Type with your thumbs on the iPad as you do on the iPhone
- Adjustable keyboard
- Customizable
 - Adjust key width
 - Height
 - Spacing
- \$3.99



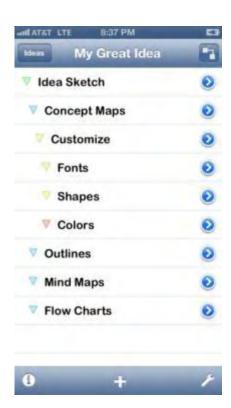




Idea Sketch



- Mind and concept mapping
- Create flow charts
- Brainstorm ideas
- Convert flowchart to text outline and vice versa
- Free







Apps for Reading





Types of Reading Apps

- There are over 27,000 reading apps and over 500,000 books and publications
- Active Reading Apps
 - Studies show that comprehension improves by 38%-70%
 - Defined as eyes are on the screen following the words
 - Highlighting of words, sentences, and paragraphs
- Passive Reading App
 - No pictures
 - Usually synthetic Computer Generated Voices/ VoiceOver
 - Therese Willkomm





ClaroSpeak US







ClaroSpeak speaks back text with high-quality speech and highlighting so you can follow the words as they are spoken.

Tap the screen to place the 'cursor point' in the text. Then tap the Play icon to start speaking.

The text will be spoken from the start point with the highlighting and voice you have selected in Settings. To stop ClaroSpeak speaking, tap the Stop icon or tap anywhere in the ClaroSpeak title bar.

- Text-to-Speech
 - import documents and PDFs into ClaroSpeak from apps such as Mail, or import PDF, Word, Pages and other files directly from Dropbox using
- Change font and color
- Save text as an audio file
- Visual Tracking
- Send Text







Reading Apps

Learning Ally



- DAISY
- Membership required
- over 75,000
 audiobooks, audio
 textbooks, and other
 recorded books

Audible.com



- Over 100,000 titles
- Works on both Android and Apple
- \$7.00-\$22.00 per month







Reading Apps

- Free Books

 - Free
 - Over 23,000 titles
 - Audiobooks
- Newspaper

- Free
- Newspapers from !50+ countires
- Over 20,000 newspapers



- Overdrive Media Console
 - Free
 - Must have library card
 - Download ebooks and audiobooks on the go







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







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



Apps for Organization/Memory







Reminders





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

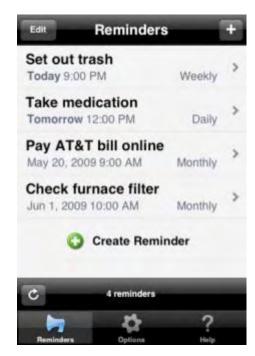


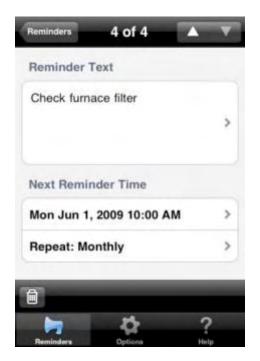


TextMinder



- Create SMS text reminders
- Specify exact date and time; choose a repeat schedule for each reminder
- Multiple reminders can remain in popup notification summary, even when followed by other messages (push notifications only show your most recent alert)
- Unread reminders show as a number badge on your standard SMS/Messages app, and remain until removed to ensure they are noticed











- Free
- You can access from a computer, smartphone or tablet
- Manage a family calendar and set reminders.
 - Add an appointment and it uploads to your Cozi account so everyone can see it.
- Get your grocery shopping lists when you're at the store, even when offline.
- Add a to do list item right when you think of it and have it right there in your pocket to remind yourself.
- Jot down a memory as it happens in the journal.
 - Add a photo from your library to capture the moment.

Add and edit non-repeating calendar appointments, shopping lists, and to

do lists while offline.





Apps for Writing and Reading







Say it & Mail it Pro







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





Brevity



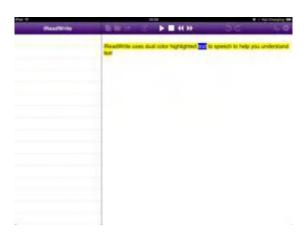
- Word Completion App
- Automatically add words if not in list
- Remembers how often you use words and offers the most frequently chosen options to you first
- E-mail Support Send e-mails from directly within the application
- Text Message Support
- Remove misspelled or unwanted words
- Set prediction font size and window transparency

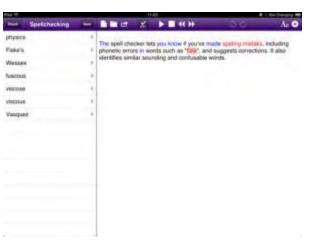




iWriteRead







- 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





Apps for Communication

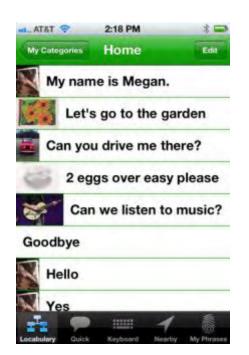


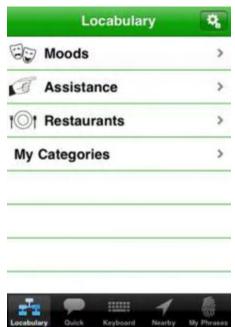




Locabulary







- Uses GPS to track user location and suggests appropriate vocabulary based on location
 - ie: McDonald';s starbucks
- A keyboard to type for text-tospeech
- User can tag their own locations and create vocabulary for each location
- Lite version Free; Pro version \$130



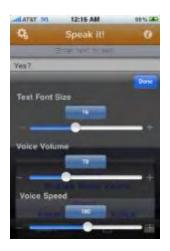


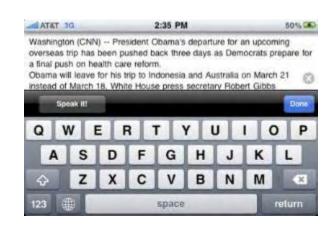
Speak it!

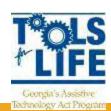


- Copy emails, documents, web pages, PDF files, and more; paste them into Speak it!, and have the text spoken back to you.
- Email text to speech files
- Make announcements over PA system
- Endless phrases and possible uses
- \$1.99













Proloquo2go







http://www.proloquo2go.com/resources/article/introductory-videos



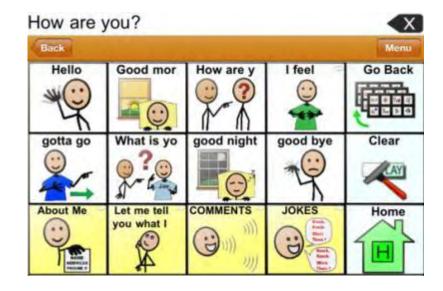




TouchChat



- Designed for individuals with Autism, Down Syndrome, ALS, apraxia, stroke, or other conditions that affect a person's ability to use natural speech
- Able to import your own pictures or take pictures
- Works on Apple and Android systems
- Over 10,000 symbols included
- Create videos
- \$149







Apps for Sensory/ Hearing

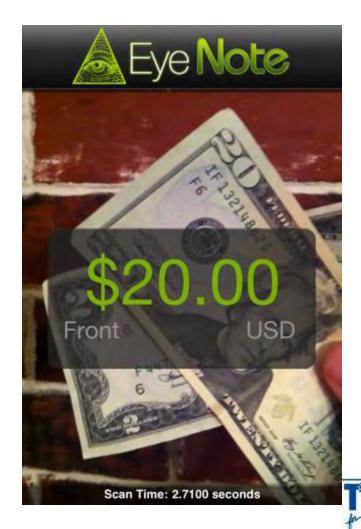






EyeNote

- Uses built in camera to scan dollar bills
- Speaks out loud
 - Distinguished btw front and back of bill
- Free
- Supports English and Spanish
- Privacy mode
 - Pulses or beeps







BrailleTouch

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

- Type with screen facing away
- Braille like typing



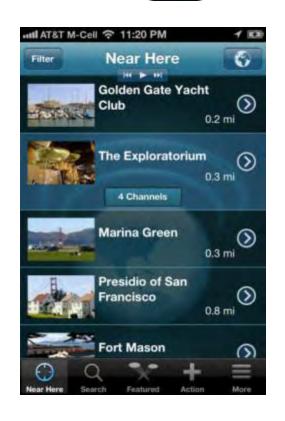


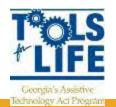




HearPlanet (Lite): Audio Guide to the World

- Speaks aloud what is around out you
- Learn about monuments. Historic sites, etc.
- FREE
- Upgrade to a paid version







ZoomReader 💽



- OCR app
- Ai Squared
- Read back in a natural voice
- Customizable highlight colors, synthesizer, text size and speech rate
- Low vision users

- \$19.99
- ZoomReader







Apps for Emergency



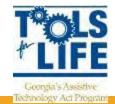




ICE In Case of Emergency

- Emergency contact list
- Central place for you to record any medications
- List allergies or medical conditions
- Pre-loaded medical information to choose from
- Free
- www.ice-app.net





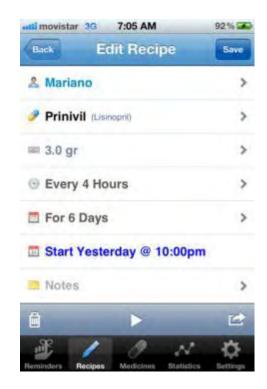




Medimate



- Medical prescription organizer
 - Both you and family
- Customize your medicine catalog
- Understand your usage







American Red Cross: Shelter View





- Know when and where shelters have been opened to provide assistance.
- Maps locations and shelter details
- View shelter details
- Capacity of the shelter and current population
- Shelter address and location.
- Shelter information is updated every 30 minutes
- Free

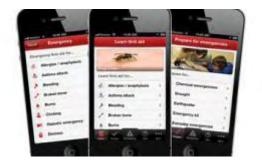






Emergency Aid







- What To Do in a personal threat, disaster or emergency
- Detailed medical profile
- Emergency contacts and health information with photo and customizable notes
- Distress Signal and light
- Illustrated instructions with highlighted "What to do", "Warnings" and "Do Not",
- One-Tap Call to emergency aid services or web sites
- \$1.99





Apps for Navigation







Favorite Travel Apps

Expedia



- Check-in/Electronic Ticket
- Change Seats
- Check Flight status
- Buy Tickets
- Sends updates
- Voice Over









Favorite Navigation Apps

Around Me



- Identifies where you are
- Lists what is around you
- View route to place from where you are
- Add information to contact list

Talk and Drive Waze



- Operate your map applications simply by talking
- Launch the application, say your destination







Apps for Relaxation







iZen Garden





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







- Portable stress management tool
- Detailed information on the effects of stress on the body
- Instructions and practice exercises to learn the stress management skill called diaphragmatic breathing









Pandora



- Free internet radio
- Create custom stations based on genre
- Free





Talk with Us!

What are Your Favorite **Apps for** Living, Writing, Reading Organization/Memory?





Our Question to You: What have You Learned today?





Webinar Evaluation

Please take a moment to complete our survey:

https://www.research.net/s/TFLwebinar





Contact



Carolyn Phillips

Director of Tools for Life

Carolyn.Phillips@gatfl.gatech.edu

Martha Rust

AT Specialist Martha.Rust@gatfl.gatech.edu

Liz Persaud

Training, Development and Outreach Coordinator Liz.Persaud@gatfl.gatech.edu

Ben Jacobs

Accommodations Specialist Ben.Jacobs@gatfl.gatech.edu

Disclaimer

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