Policy to Practice: Assistive Technology and Aging

Carolyn Phillips | Director & PI | Tools for Life
With contributions from TFL Team

Rob Groenendaal | Assistive Technology Program Manager
Center for Integrated Programs | Office of Consumer Access and Self-Determination
Administration for Community Living | US Department of Health and Human Services
www.gatfl.org
For Handouts: http://www.gatfl.gatech.edu/tflwiki

www.amacusg.org
Welcome

Welcome to the new Assistive Technology Act Technical Assistance and Training (AT3) Center web site. Please be patient as we build and grow this website to support quality implementation of the Assistive Technology Act. The AT3 Center is responsible for providing training and technical assistance for all AT Act Section 4 grantees, known as State AT Programs, including supporting all authorized state level and state leadership activities. A separate technical assistance provider, the National Disability Rights Network, is responsible for providing training and technical assistance for the AT Act Section 5 grantees as part of their overall technical assistance to Protection and Advocacy agencies. The AT3 Center will also establish and curate a national public AT internet resource portal to make general AT information available to the public and other stakeholders.

The AT3 Center is a sponsored project of the Association of Assistive Technology Act Programs (ATAP) operated under a five year grant (2016 – 2021) from the Administration for Community Living ACL, U.S. Department of Health and Human Services.

AT3 News

For initial communication and information dissemination, the AT3 Center has established the About AT listserv for all interested individuals. Please click on the following link to request to be added to this listserv - About AT listserv
Administration for Community Living
Center for Integrated Programs
Office of Consumer Access and Self-Determination
Assistive Technology Act Program
## Assistive Technology Act Program

| Program Lead (and Backup)                          | Robert Groenendaal, Assistive Technology Program Manager  
|                                                  | 330 C Street, SW, Suite 1317B, Washington, DC 20201  
|                                                  | (202) 795-73556; Robert.Groenendaal@acl.hhs.gov (No Backup) |
| Last 3 years funding history (FY 2015 - 2017)     | FY 2015 Assistive Technology Act Non-P&A Total - $26,660,000  
|                                                  | FY 2016 Assistive Technology Act Non-P&A Total - $27,450,000  
|                                                  | FY 2017 Assistive Technology Act Non-P&A Total - $27,450,000 |
| Current staffing numbers and how are they paid    | 1.0 FTE |
| What data is collected on the program and how / where is it collected? | Annual Performance Report  
|                                                  | State Plan for Assistive Technology  
<p>|                                                  | Data currently submitted in the CATADA system, UMass-Boston, Institute for Community Inclusion |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the mission of the program?</td>
<td>The mission of the AT Program is to serve people with all types of disabilities, of all ages, in all environments, and provide a wide array of activities to meet AT needs.</td>
</tr>
<tr>
<td>What is the legislative authority for the program?</td>
<td>Assistive Technology Act of 1998, as Amended (Public Law 108-364)</td>
</tr>
<tr>
<td>What are the goals for the program?</td>
<td>The goal of the AT Act Program is to increase access to and acquisition of AT through state-level and state leadership activities.</td>
</tr>
</tbody>
</table>
## Assistive Technology Act Program

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who are the grantees and is it mandated to go to certain entities?</td>
<td>56 State Lead Agencies designated by the Governor.</td>
</tr>
<tr>
<td>How do we perform oversight on the grantees?</td>
<td>ACL monitors the program through the review of state plans, annual financial reports and annual performance reports.</td>
</tr>
<tr>
<td>How do we assist the grantees?</td>
<td>ACL assists grantees by managing the development of state plans, submission of annual programmatic and financial data, and the provision of technical assistance and training to the state AT programs.</td>
</tr>
</tbody>
</table>
### Assistive Technology Act Program

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Describe “success” for this program.</strong></td>
<td>Success for Assistive Technology Act state programs means that individuals with disabilities, including those who are aging, are able to access and acquire assistive technology devices and services to maintain or improve their independence in their communities, obtain or retain employment, or benefit from education (K-12 as well as post-secondary).</td>
</tr>
<tr>
<td><strong>What performance measures do you use?</strong></td>
<td><strong>Return on Investment:</strong> 56 State AT Act programs return close to $65 million in savings and benefits with a $26.5 federal investment in State AT programs. <strong>Leverage funding to provide services:</strong> $16,945,835 is leveraged from federal, State, local and private sources by state AT programs to maximize critically needed AT services. Over 750,000 individuals received direct services from their State AT programs in FY 2016.</td>
</tr>
<tr>
<td><strong>GPRAMA Measures?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Other Metrics?</strong></td>
<td></td>
</tr>
</tbody>
</table>
### FY 2016 AT Act Data

<table>
<thead>
<tr>
<th>Access Activities</th>
<th>72,808 individuals participated in device demonstrations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Demonstration</td>
<td>54,274 devices were borrowed from short-term device loan programs.</td>
</tr>
<tr>
<td>Device Loan</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acquisition Activities</th>
<th>63,249 recipients acquired 79,223 devices for a total of $31,673,585 in savings by obtaining gently used AT instead of new.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Reutilization</td>
<td>842 borrowers obtained financial loans = $6,425,783. Through other state financing programs, 2,341 recipients acquired 3,076 devices valued at $3,534,875 and 2,374 individuals received 3,628 devices with a savings of $2,132,198.</td>
</tr>
<tr>
<td>State Financing</td>
<td></td>
</tr>
</tbody>
</table>
## Assistive Technology Act Program

<table>
<thead>
<tr>
<th>What are the biggest opportunities for this program?</th>
<th>To engage federal and state agencies in collaborative efforts that result in cost efficiencies when AT services are integrated and best practices in device acquisition and access are implemented.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the biggest risks for this program?</td>
<td>Reductions in funding would jeopardize state AT Act programs’ ability to continue comprehensive and statewide AT services to individuals with disabilities through the lifespan, including older Americans.</td>
</tr>
</tbody>
</table>
# Assistive Technology Act Program

| What are the three things that we can do to better support this program? | 1. Support AT Act programs in their efforts to partner with other federal programs at the state level. Encourage collaborations with Medicaid to support device reuse programs and Medicaid initiatives (e.g. Home and Community Waivers) designed to rebalance long-term care for older Americans and individuals with disabilities.  
2. Help AT Act programs improve their visibility and recognition among other entities, including but not limited to Aging and Eldercare programs.  
3. Lead efforts in communicating the importance of AT and the role of the AT state programs as it represents and advocates for individuals with disabilities and older adults throughout the federal government, including collaborative work with the Centers for Medicare and Medicaid, FEMA, Department of the Treasury, Department of Education, and others. |

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.
Welcome to Tools for Life

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

Tools for Life and the TFL Network work collaboratively together to accomplish...
Join us for 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.

• To join the TFL mailing list to receive our email announcements, visit www.gatfl.gatech.edu
TFL AT Demo Lab

- Tablets
- Vision & Hearing
- DME
- Communication
- Games
- Software
- Switches
- Keyboards
- More!
AT Acquisition!

• Tools for Life endeavors to break down the barriers which prevent individuals with disabilities, their families, and service providers from acquiring and effectively using Assistive Technologies to gain greater independence.

• To insure that AT products are available to Georgians with disabilities

• Eliminate Funding Barriers
Tools for Life & Aging Community: Transformational Partnership

• Direct Service:
  – AT Evaluations
  – AT Demonstration
  – AT Lending Library – “Try Before You Buy”
  – AT Reuse – Bridging Gaps for smoother transitions
  – Lead to AT Toolkits in every AAA and ILC and more AT Labs throughout Georgia

• State Leadership:
  – Providing AT training to AAA, ADRC and MFP - Options Counselors to build awareness and knowledge
  – Providing Technical Assistance - Policy for AT Consideration
  – Providing Technical Assistance – Ensuring Quality AT Services throughout Georgia

• Development of National AT Decision Tree/Algorithm Tool
Training Objectives:

- Bring together academics, researchers, industry, practitioners, & consumers
- Provide opportunities for ongoing collaboration between these groups
- Educate on what is new and what is on the horizon
Design, Technology & Aging
From Problem to Product

Brian D. Jones
Director, Aware Home
Senior Research Engineer, Interactive Media Technology Center, RERC
TechSAge, Wireless RERC

brian.jones@imtc.gatech.edu
TechSAge research is funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RE5016-01-00). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS).
Universal design is design for everyone who lives long enough.
In the Shadows - Mainstream

• Tim Cook, Apple Chief Executive
• 2013 speech at Auburn University
• …people with disabilities are "in a struggle to have their human dignity acknowledged."
• "They're frequently left in the shadows of technological advancements that are a source of empowerment and attainment for others."
Why Assistive Technology?

• For a person without a disability, technology makes things easier…. 

• For a person with a disability, technology makes things possible.

• **TIP: USE AT. I have yet to meet a successful student with disabilities who doesn’t use Any AT.**
TFL and Division of Aging Services Growing Relationship

• Since 1991, TFL has been developing relationships with Division of Aging Services (DAS). AAAs and the ADRC’s throughout the state of Georgia.

• This includes participating on various advisory boards and committees committed to ensuring assistance and resources for individuals with disabilities and/or naturally aging process.

• DAS representatives actively participate on the TFL Advisory Council.
AT and DAS – Expanding AT Access

• Lead to AT Tool Kits in all AAA /ADRCs
  • AT from all areas to support people with disabilities and the natural aging process

• AT Solution Lab at MFP and Aging-related Conferences

• AT Solution Lab at the Coastal Area Agency on Aging Georgia
  • Coastal AAA/ADRC Won the 2016 AIRS Distinguished Service Award for their work with the AT Lab.
  • Presented at the Awards Luncheon at the 2016 AIRS Conference in St. Louis.
  • AIRS is the premier professional membership association for community I&A with over 5000+ national and international members
AT and DAS – Success!

• AT Evaluation Pilot program began August 2015:
• Proof of Concept – AT is a Key Factor to Success
• Started in 2 Regions:
  – Atlanta Region (Urban)
  – Southeastern Georgia Region (Rural)
• TFL Customized AT Evaluation Process for MFP:
  – In home and/or in nursing home
  – AT Research support to determine appropriate AT to meet needs of individuals
  – AT Report/Roadmap - extensive written report with AT recommendations and resources
  – Follow-up and follow-along consultation

• Building on these AT Services for DAS:
  – AT Demonstration
  – AT Lending Library – “Try Before You Buy”
  – AT Reuse - Bridging Gaps for smoother transitions

Success – Expanding to All Regions in Georgia in 2017
Meet Lisa!
Need for AT Knowledge Transfer

• A Lot of Gaps in AT awareness and knowledge
• AT is undeniably linked to Successful Transitions and Independent Living
• Need to ask more questions – Some “don’t know what they don’t know…”
• Many Red “Flags”!
• Using AT to turn RED “flags” to Green “Flags”
Examples of Some “Red Flags”

Examples of many common hazards in the home

DME never used

Medication errors
Development of National AT Decision Tool/Algorithms

• Real-time Tool to Share What Works
  – Learning from each other
  – AT solutions, strategies, resources
  – When to call in a professional
• Smart-Sourcing Approach
• Hosted 2 Workshops – Georgia
• Hosted National Workshop at ATIA in 2017
• Growing into Specific areas – Dementia, Mental Health, etc.
Rapid-Fire (Brainstorming) Breakout Sessions

What is the goal?

• Consumers (end users)
• Practitioners
• Industry Reps
• Researchers
• Designers
Engineering Design Process

- Identify / Define the Problem
- Research the Problem
- Design Requirements
- Design a Solution / Concept
- Prototype Solution
- Evaluate Solution
- Results

Next Steps

Rapid-fire Breakout session

Needs Improvement

Iterate
Information and Communication Technology (ICT) Accessibility

https://www.edx.org/course/information-communication-technology-ict-ict100x
This module will explore assistive technology (AT) as it relates to accessible electronic information and communication technologies (ICT). This module will also provide participants/students with the tools needed to identify challenges present in ICT environments, and will provide solutions that can assist with improving accessibility and promote inclusion.
What Works and What is New In AT and the AT Community:

• Were we Are and Perhaps, Where We Are Going
Hope begins in the dark, the stubborn hope that if you just show up and try to do the right thing the dawn will come.

Anne Lamott
Assistive Technology Matching:
Person Centered Approach

✓ The Person First
✓ Circle of Support – Family of Choice
✓ Case Managers
✓ Technologist
✓ Occupational Therapist
✓ Speech & Language Pathologist
✓ Physical Therapist
✓ Engineer
**Human Activity Technology (HAAT) Model**

- **Human**: represents the skills and abilities of the person with a disability
- **Activity**: a set of tasks to be performed by the person with a disability
- **Context**: the setting or social, cultural and physical contexts that surround the environment in which the activity must be completed
- **Assistive Technology**: devices or strategies used to bridge the gap between the person’s abilities and the demands of the environment

*Developed by Cook & Hussey*
Staying off the “FAST” Track

- Frustration
- Anxiety
- Stress
- Tension
Reminders

- Built-in App
- Organize your reminders
- Siri
How to use Speech Recognition
Overview of the Human Factors and Aging Laboratory

Points of Excellence

- Our research advances both science and practice
- We aim to improve quality of life for adults of all ages
- Students graduating from our lab are very successful

Resources

Senior-to-Senior Brochure
acceptance. Contexts for the discussion will include aging-in-place and health care.

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

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 Human Factors and Aging Laboratory, 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).

**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 innovative research program at Georgia Institute of Technology is focused on developing psychological and computer science to support home activities.
“Exploring New Ideas with Advanced Social Robotics”

— an extension of humankind. RoboKind.
Robo Kind Features
Meet NAO!
Mealtime Partner Feeder

- Variety of mounts
- Battery operated
- Control amount of food
- Control pause time between spoonful
- Adjustability of the spoon
Google 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
Power Fish’n and Trigger Finger

- Electronic power assist fishing reel
- Attaches to a fishing pole
- One finger push

- Straightens out trigger finger so that an individual can shoot
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
Gaming

- FRU
- Yoga inspired
- Problem solving
- 1 or 2 people can play at once
DIY AT

Stress Balls
We used:
- Colorful balloons
- All-purpose flour
- Play Dough

Alternatives:
- Clear or different color balloons
- Sand art sand or course flour

Sensory Bottles
We used:
- Plastic Water Bottles
- Assortment of Glitter
- Tacky Glue

Alternatives:
- Different Types of Water Bottles
- Other types of object
- Thicker solution (ex: glycerin, oil, corn syrup)
- Food Coloring
Reminders

- Built-in App
- Organize your reminders
- Siri
Ergonomics

- Standing Eye Height
- Standing Elbow Height
- Sitting Eye Height
- Sitting Elbow Height
- Seat Height
- 20”-28” To Screen
- 10”-20” Monitor Tilt
Wearables Forecast

CCS Insight Global Wearables Forecast, 2016-2020

- **Volume**
  - 2016: 123 million
  - 2020: 411 million

- **Value**
  - 2016: $14.0 billion
  - 2020: $34.2 billion

- **Device sales in 2020**
  - Eyewear: 97 million
  - Wristbands: 164 million
  - Tokens, clip-ons & jewellery: 4 million
  - Watches: 110 million
  - Hearables: 9 million
  - Wearable cameras: 25 million

February 2016
Amazon Echo

• Speech-controlled speaker system
• Voice recognition - further distances
• All functions are server side
• Compatible with many EC Brands
• $179.99
Philips Hue Light Bulbs

- Wifi Connected
- Dimmable
- Displays Over 16 Million Colors
- Compatible with Amazon Echo
- Color Starter Kit $174.99
MyMedSchedule

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

www.mymedschedule.com
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
MINDRDR FOR GOOGLE GLASS LETS YOU TAKE AND SHARE PICTURES JUST BY THINKING

NEUROGADGET - JULY 11, 2014

SHARE ON:
Apple Watch

- Receive Calls and texts
  - “Inner Circle”
- Apps
- Can be used for fitness
  - Heart Rate Monitor
  - GPS
  - Accelerometer
- “Hey Siri”
- Haptic feedback
- Calendar
- $499
My Question to You:
What have You Learned today?
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Want More?

• Here are additional resources!
FREE!
iOS

- Waze is the world's largest community-based traffic and navigation app. Join drivers in your area who share real-time traffic & road info to save time, gas money, and improve daily commuting for all.
Breathe2Relax

• 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
Audible.com

- Digital audiobooks
- Read by Hollywood stars, authors, and professional narrators
- Listen anywhere
- Over 180,000 titles
- Membership
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
Key Ring App

FREE!

iOS and Android

- All those loyalty cards are hard to keep track of. Key Ring puts all your cards on your phone, so they’re there when you need them. Scan and store grocery cards, gym cards, library cards, gift cards... you name it. Loyalty cards scan straight from your phone at the checkout counter, saving you money instantly
Kubi

- Dock your tablet for remote pan and tilt controls
- See and interact with people during a conference call
- Use any Video Client: Skype, FaceTime, Google Hangout, etc.
- Cloud Control
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
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.

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
See for Yourself

What is OrCam?

OrCam is an intuitive portable device with a smart camera designed to assist people who are visually impaired.

OrCam gives independence.
Lechal

- Haptic Footwear
- Uses GPS to let you know where you are
- Connects with app
- www.lechal.com
Redefining Navigation

Feel Your Way

Lechal’s haptic feedback, via simple vibrations, is with you every step of the way, giving you detailed route guidance at every turn. It even works offline! Which means you can wander off with no internet or data connectivity or get off a plane in a new country and Lechal will work, always in all ways.

Features
FitBit

• Fitness tracker
• Variety of styles and colors
• Track Activity
• Track Food
• Track Sleep
• Track Heart rate
• Works with other App
• New Smartwatch
B-Calm

- “acoustic shield”, allowing the individual to have control of the sound environment
- helps reduce off task behaviors and irritability
- disturbing noises are blocked and replaced with familiar and soothing sounds
- Wearable technology vest
  - Provides customizable deep touch pressure
    - Uses adjustable air pressure compression controlled via smartphone app
Reveal

• Measures and tracks anxiety to help you better understand behavior and prevent meltdowns.
GlassOuse

• Helps people control electronics without using their hands.

• Based on your head movements, it moves the cursor onscreen. You bite on a blue extension to click, and it can go a week without charging.”

• [https://vimeo.com/158593763](https://vimeo.com/158593763)
Lumo Lift

- Lumo for back and head/shoulders
- Sends gentle vibration alert when posture needs to be corrected
CellHandle

• Wearable tech for all phones and cases
• Great for larger phones
• Safe way to hold and use phones
• Solves dexterity issues Rotates; adjustable; detachable
3D Printers

• Coming down in price
• Creating assistive technology for lower cost
• In classrooms
• Ability to feel how something looks
• Prosthetics
• Medical Advances
Cicret Bracelet

- Turns your arm into a touchscreen
- Works on every skin color
- iPhone and Android
- Phone screen mirroring
- Removeable battery
- Water resistant
- Pre-Orders begins in 2017
- [Cicret Bracelet](https://cicret.com/wordpress/)
MIT Finger Device Reads to the Blind in Real Time

By RODRIQUE NGOWI
Associated Press
JULY 8, 2014 1:24 AM

In this Thursday, June 26, 2014 photo, a model wears a FingerReader ring at the Massachusetts Institute of Technology’s Media Lab in Cambridge, Mass. Researchers designed and developed the instrument, which enables people with visual disabilities to read text printed on paper or electronic devices. (AP Photo/Stephan Savoia)