

Introduction to Assistive Technology: Tools for Life

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November 2018

Welcome to the Assistive Technology Revolution!



- The world around us is evolving at an astounding rate. Assistive Technology (AT) developments have been foundational in this evolution and a catalyst for producing positive life-changing results for individuals with disabilities.
- This session will take a closer look at:
 - AMAC & Tools for Life – AT Act Program
 - Understanding Assistive Technology
 - Defining “Low/Light Tech” to “Mid/High Tech Solutions”
 - Acquiring Assistive Technology
- ***...all in about 120 minutes!***

For Handouts: [Visit the Tools for Life Wiki Page – www.qatfl.gatech.edu/tflwiki](http://www.qatfl.gatech.edu/tflwiki)

AMAC Accessibility

- AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private, and nonprofit organizations working with individuals with disabilities.
- Services include E-text, Braille, live captioning, assistive technology, office management software, and accessibility consulting.



Accessibility Made Smart



- AMAC creates practical solutions that work, with a focus on utility, ease of use, and high quality.
- **Accessibility Consulting** focuses on organizational accessibility needs with evaluation, technical assistance, customer support, and website accessibility solutions.
- **Braille Services** produces customized projects from both print materials and electronic text including partial books and chapters or graphics only using cutting-edge technology.
- **Captioning and Described Audio Services** makes classrooms, meetings, labs and other audio environments fully accessible for deaf or hard-of-hearing and providing audio descriptions of videos and other visual media for those who are blind or have low-vision.
- **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 <http://www.amacusg.org/>

www.amacusg.org



Tools for Life

- 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 Website




The screenshot shows the Georgia Tech Tools for Life website. The header features the Georgia Tech logo and the 'TOOLS for LIFE' logo with the tagline 'Georgia's Assistive Technology Act Program'. A navigation bar includes links for HOME, ASSISTIVE TECHNOLOGY, TFL NETWORK, and CALENDAR OF EVENTS, along with social media icons and a search bar. A left sidebar lists various resources: TRAINING, FUNDING, PUBLICATIONS, TFL WIKI, MEET THE TFL TEAM, MEET THE ADVISORY COUNCIL, DIRECTIONS/MAP, JOIN OUR MAILING LIST, SCHEDULE A TOUR, and AT REFERRALS. The main content area has a sub-navigation bar with Welcome, AT Services, Try AT, Get AT, AT Guides, and Research. The central banner features a photo of a woman assisting a man with a tablet, with the text 'Discover Your AT Solutions!'. Below the banner is a 'Welcome to Tools for Life' message. The right sidebar contains sections for WEBINARS (Current Webinar Schedule, Webinar Archives), TOOLS FOR LIFE APPFINDER (with a smartphone icon and the text '...for Living, Learning, Working, and Playing.'), AT ONLINE EXCHANGE (gTRADE logo), and AT FUNDING GUIDE (DOLLARS & SENSE logo with the tagline 'NAVIGATING THE AT FUNDING STREAM').

Your TFL AppFinder: What Can I Find?



- Search by:
 - ✓ App Name
 - ✓ Categories
 - Books/Reading
 - Education
 - Environmental Adaptations
 - Hearing
 - Vision
 - Navigation
 - Cognition, Learning, and Development
 - Personal Care and Safety
 - Productivity
 - Communication
 - Therapeutic Aids



Georgia's Assistive Technology Act Program

Main page
Categories
A-Z index
Help

Featured Categories
Advisory Council
Events
Publications
Resources
Training

Tools
What links here
Related changes
Special pages
Printable version
Permanent link
Page information

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Page Discussion Read View source View history Search

Main Page

Welcome to the Tools for Life wiki. Tools for Life, Georgia's Assistive Technology Act Program, gives more options for greater freedom by 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 in communities of their choice.

Frequently Asked Questions (FAQs)

- What is Assistive Technology?
- Where can I learn about Assistive Technology devices?
- Where can I access TFL webinar archives?
- Where can I learn more about AT Reuse?
- How can I find my local AT Reuse program?
- Where can I find the National Pass It On Center AT Reuse Partnerships with Medicaid Guide?

Recent Presentations and Activities

- GVRA New Hire Training - July 10, 2018, Atlanta, GA
- GVRA New Managers and Supervisors Training - June 22, 2018 - Atlanta, GA
- HSHT & CEISMC Summer Tour - June 13, 2018 - Atlanta, GA
- VRS Summer Transition Academy - June 12, 2018 - Atlanta, GA
- IDEAS Conference 2018 - June 5-8, 2018 - St. Simons Island, GA
- Paideia School Neurodiversity Class - May 23, 2018 - Atlanta, GA
- GVRA Deaf and Hard of Hearing Interdisciplinary Group - May 17, 2018 - College Park, GA
- 2018 CSUN Conference - March 19-23, 2018 - San Diego, CA
- GVRA Blind and VI Interdisciplinary Group - March 22, 2018 - Atlanta, GA
- CVI Presentation on Environmental Control - March 12, 2018 - Atlanta, GA

Connect with Us

- Tools for Life Website
- Tools for Life on Facebook
- Tools for Life on YouTube


Helpful Tools & Resources

- DBHDD Assistive Technology Program Resources
- TFL Referral Training Link
- Tools for Life Direct Services Resources
- Tools for Life AppFinder
- Dollars & Sense Funding Guide
- gTrade Georgia's Online Equipment Exchange
- Tools for Life Community Partners
- Pass It On Center Website

News

- June 3-6, 2013 Tools for Life co-hosts IDEAS Conference in St. Simons Island, GA
- April 2013 Tools for Life AppFinder makes program spotlight on AT Connects website
- April 2013 Our Favorite Apps spotlight on AT Program News
- The National Pass It On Center releases document titled, AT Reuse Partnerships with Medicaid: A Guide for Consideration and Development


AT3 Center- Find Your State Program



search on AT3...

MENU

National Assistive Technology Act Technical Assistance and Training (AT3) Center



Program Directory - Find Your State Program

+ [Need help searching?](#)

Step Number 1: Select Directory:

Select Directory ▾

Step Number 2: Select State:

Select State ▾

Assistive Technology Resource Centers of Hawaii



Assistive Technology Services

- Assistive Technology Services are any services that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device. These services include:
 - Evaluating
 - Providing devices
 - Selecting, Designing, Customizing
 - Maintaining, Repairing
 - Coordinating
 - Training/Technical Assistance – student, family, and school service providers
- Public Law 105-394 [29 USC 2201]

Seize this Opportunity – Explore & Ask

Statistics to Think On

- 14% of People with disAbilities are fully employed.
- 16% of People with disAbilities are underemployed.
- 70% are unemployed or out of the work force entirely.
- Adults with disAbilities work fewer hours –command lower wages, and earn less annually.
 - Their median annual earnings are only 58.1% of the median earnings of those not having disabilities.

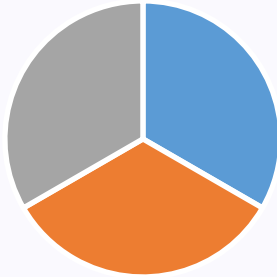
• *As reported by NFI – President Bush*

The “FAST” Track

- *Frustration*
- *Anxiety*
- *Stress*
- *Tension*

Human Activity Assistive Technology (HAAT) Model

- **Context:** the setting or social, cultural, and physical contexts that surround the environment in which the activity must be completed



■ Human ■ Activity ■ Assistive Technology

- ***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
- ***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

The SETT Framework

S = Student/Skills

E = Environment

T = Tasks

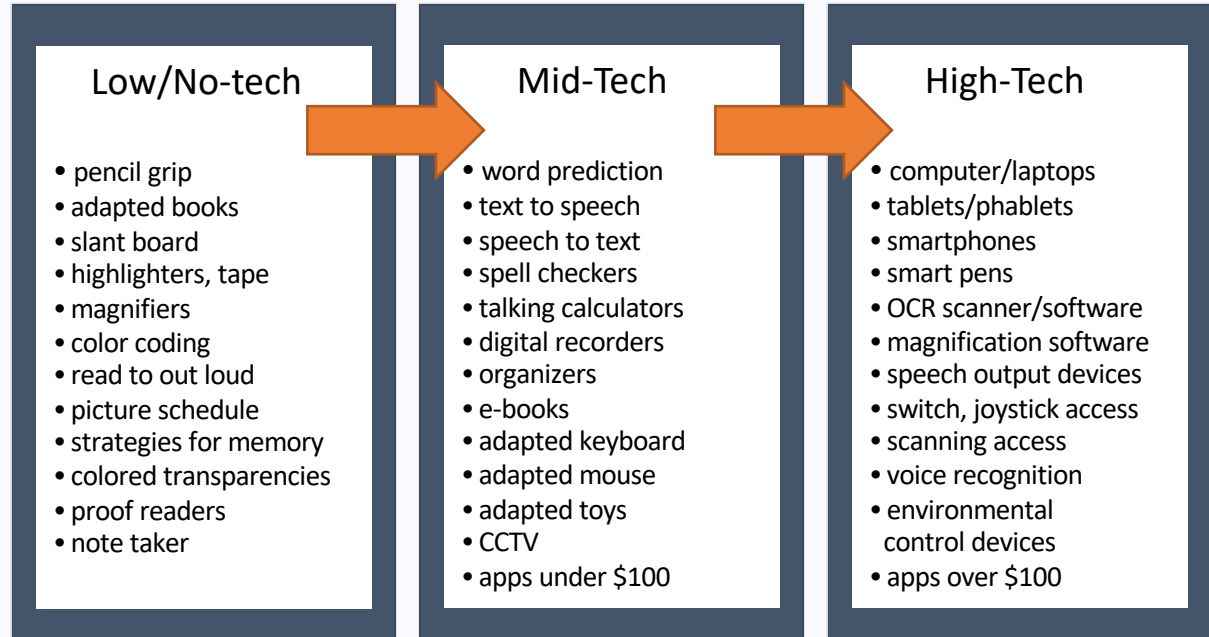
T = Tools



Adapted from Joy Zabala www.joyzabala.com

Assistive Technology Continuum

- Observations and “Hanging out with Intent”
- Assistive Technology is a ***continuum of tools, strategies, and services*** that match a person’s needs, abilities, and tasks.



What is Assistive Technology?

- Assistive Technology (AT) is any item or piece of equipment that is used to increase, maintain or improve the functional capabilities of individuals with disabilities in all aspects of life, including at school, at work, at home and in the community.
- Assistive Technology ranges from no/low/light tech to high tech devices or equipment.



Why Assistive Technology?

- For a person without a disability, assistive technology makes life easier.
- For a person with a disability, assistive technology makes life possible.
- *Tip: USE AT! We have yet to meet a successful person who doesn't use any AT.*



Guiding Principle and Public Law

- ...disability is a natural part of the human experience and in no way diminishes the right of individuals to:
 - (A) live independently;
 - (B) enjoy self-determination and make choices;
 - (C) benefit from an education;
 - (D) pursue meaningful careers; and
 - (E) enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of society in the United States.

- Public Law 108-364

Defining the Medical Model of Disability

- Impairments or differences should be “fixed” or changed by medical and other treatments, even when the impairment or difference does not cause pain or illness
 - People with disabilities are to be adapted to fit into the world as it is
- The emphasis is on dependence
- Focus is on the impairment rather than the needs of the person
 - Oftentimes, institutions are the norm where basic needs can be met

Defining the Social Model of Disability

- Disability is caused by the way society is organized, rather than by a person's impairment or difference
- Views that the position of disabled people and the discrimination against them are socially created and has little to do with impairments
- Explores way of removing barriers that restrict life choices for disabled people
 - When barriers are removed, disabled people can be independent and equal in society, with choice and control over their own lives

Social Model of Disability

- The traditional medical model does not explain personal experience of disability or help to develop more inclusive ways of living
- Encourages people with disabilities to redefine what “disability” means to them
- Perpetuates confidence and self-esteem
- Helping to reconstruct society



Assistive Technology



Workplace Ergonomics

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



Contributing factors for poor positioning (Office Setting)

- Non-adjustable workstations; the layout of the workstation does not fit the user
- Lack of knowledge on how to set up the workstation properly according to the user's needs (both physical needs and job tasks)
- Poor working habits that remain uncorrected
- Fatigue and vision issues

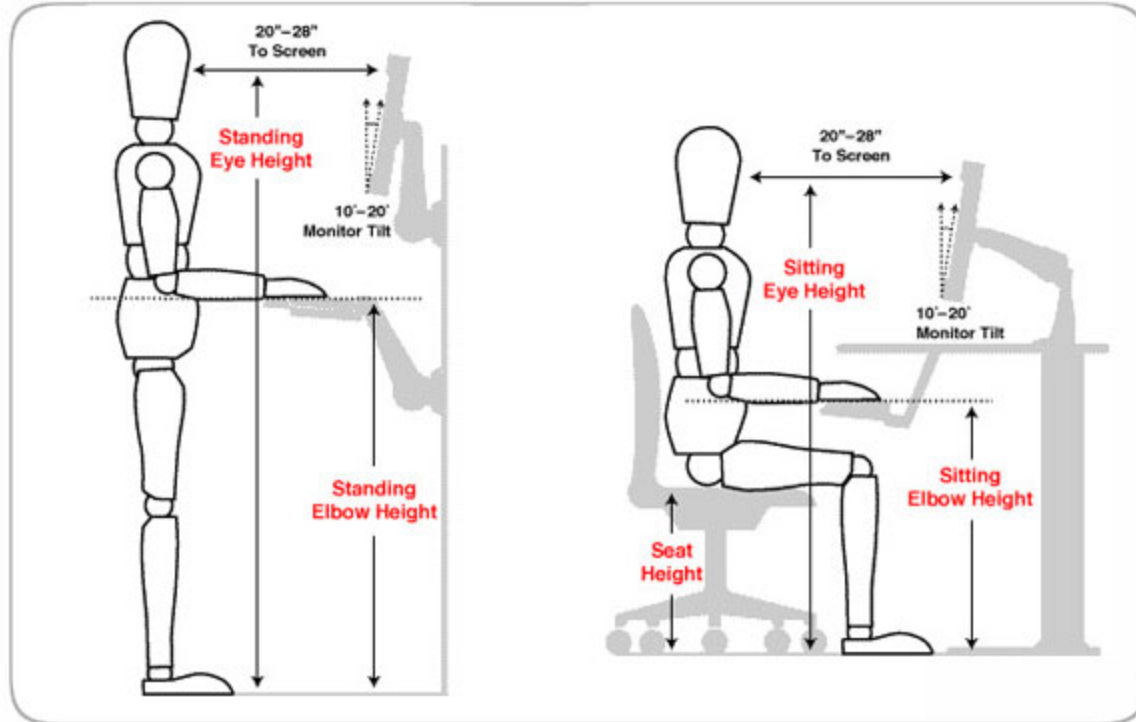


Workstations

- Many options
- Stature considerations
- Task considerations
- Needs based on injury or disability



Ergonomics in the Workplace/Classroom



Modifications to the work environment

- **Provide private office or work area with limited distractions/low traffic area**
- **Noise reducing headsets/ noise reduction ear muffs**
 - **Can decrease help to reduce stress and improve concentration**
 - **Can also reduce ambient noise at night and help with sleep**



Modifications to the environment

- Provide natural light or therapy lamps
 - Simulate outdoor lighting
 - Many options...make sure designed for SAD
 - Light box should emit reduced UV light
 - Brightness will affect hours of use; consult healthcare provider for hours of use
 - Recommended distance 2 feet from user



Source:
[mayoclinic.org](https://www.mayoclinic.org)



Communication

Augmentative Communication

- An augmentative communication device is a type of assistive technology.



Augmentative Communication



- Most often use the term augmentative communication because it acknowledges that all people communicate in some way, so we are augmenting the person's communication, not providing an alternative.

The Right to Communicate

Every individual has a right to communicate, and there are many different ways in which people communicate their thoughts and needs. Whether it is through speech, gestures, sign language, pictures, or a voice output communication system, the important thing is that an individual can begin communicating and learning with you.

Communication Modes

- All individuals, regardless of the type or severity of their disabilities, need a functional and independent means of communication.
 - Most often includes multiple communication modes.
 - Communication mode used dependent on partners, environments, and functions.



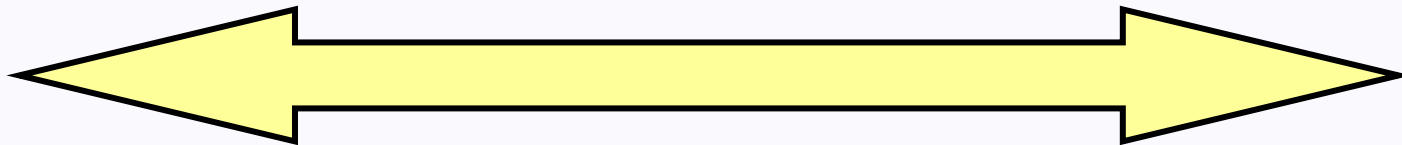
Communication Difficulties

- Individuals who can benefit from AAC are not limited to one type of communication difficulty. These can include individuals who:
 - are non-verbal
 - have limited verbal skills
 - have poor speech intelligibility
 - have non-functional language



Types of Augmentative Communication Systems

- A range of communication systems are available
 - Systems range from easy to use to more complex and from inexpensive to more expensive



No Tech



Low Tech



Mid Tech



High Tech





Activities for Daily Living

- **Non-Slip Placemat**

- **Keep plates/ items from moving**
- **Use on Roller walkers**
- **Cut to fit**



- **Bestic Automatic Feeder**
- **Lifts the food from the plate to your mouth**
- **Multiple settings**



- **Freedom Dinnerware**

- **Low vision, Alzheimer's, Arthritis, stroke**
 - **Suction keeps from moving**
 - **Helps with getting food on utensils**

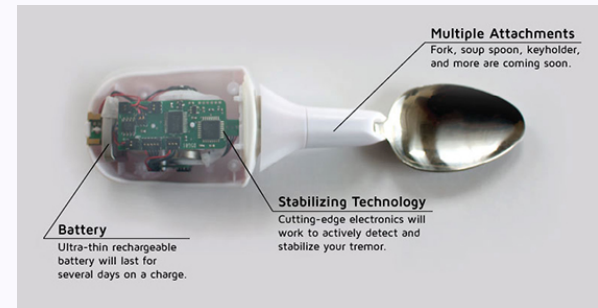


GYENNO Spoon and Liftware Spoon



- **GYENNO**
- **Eat without stress**
- **360 degree stabilization solution, offsetting 85% of unwanted tremors**
- **Easy to use automatic mode**
- **~ \$299**

- Liftware Leveler
- Assists with limited hand or arm mobility
- \$195



Mobility Aids

- Carex Uplift Premium Power Seat
- \$164



- Bed Can Assist



- Bedside Valet





**Silicone SeatBelt Reach
Extender Helper**

- Seat cushion swivels 360 degrees for smooth, easy movement in either direction.
- Non-skid, flexible swivel base contours to seat and stays in place.

HandyBar

- **Automotive
Standing Aid
Emergency
Escape Tool
Window
Breaker and
Seat Belt**



AT for all Sensory Needs

- **Pocket Talker**



20/20 Panorama rearview Mirror



TV SoundBox Speaker Receiver



Illuminating magnifier



Bathroom Faucet



Using Sugru to increase contrast and grip





AT for Memory

- Reminder Rosie

- Alarm Clock
- Personal Voice Reminder
- Easy to use
- www.alzstore.com



- MedCenter System

- Organizer with Reminder System
- Monthly display
- Alarm
- Talking



- Automatic medication dispenser
- Organized pills packaged by pharmacy
- Sealed pouches for each day
- Time stamped
- Lessen medication errors



HERO

- Smart appliance that sorts, dispenses and manages pills HERO is locked and password protected
- Can hold over one month's supply of 10 different pills
- With HERO Connect app you can make sure you and your loved ones are on track and get notifications when running low
- <https://herohealth.com>



- EpicID Emergency ID Band

- Easy for first responders to access
- Salt water safe USB with a durable stainless steel clasp and USB cover
- No subscription or internet connection is required
- Plug this USB into your computer and input or update your personal information medical history and insurance information
- Both PC and Mac compatible



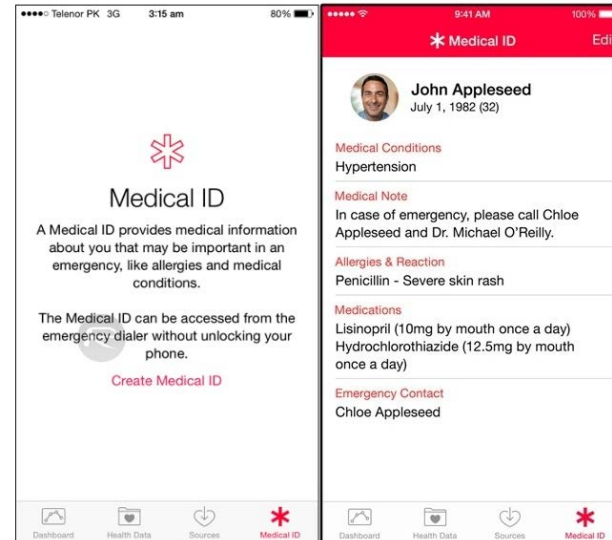
- Health Smart Thermometer

- Compact and easy to hold
- Talking thermometer
Large, backlit LCD screen with LED fever alarm indicator
30-reading memory storage
- Date and time display
Fahrenheit/Celsius switchable



Apple iPhone Medical ID

- Create Medical ID
- Can be used without passcode
- Medical Conditions
- Medications
- Emergency numbers
 - Can call
- Organ Donor
- Blood Type





Smart Home

Smart Home Technologies



- Smart Speakers
 - Google Home
 - Amazon Echo
 - Apple Homepod
- IoT Devices (Internet of Things)
 - Lights
 - Security
 - TV
 - Other

Accessibility Options for the Home

- Smart home technology is becoming more and more ubiquitous
- Many ways to interact
 - Amazon Echo
 - Google Home
- Options are becoming more affordable and varied

- One option
- Best for dual sensory disabilities
- Some items still require a hub
- Push notifications

Apple HomeKit



August Smart Lock



- Fits many deadbolts
- Keyed or keyless
- Check remotely
- Alerts for door unlocking

One Link by First Alert



- Smoke and Carbon Monoxide
- Connected
- Get push notifications
- Visual and auditory cue

Phillips Hue Lights

- Color and white options
- Set scenes
- Accent lighting
- Control with your assistant, voice or app
- Requires a bridge and wifi



Fibaro Flood Sensor



- Detects changes in moisture and temp
- Notifications and audible alarm
- Can connect to smart lights for visual alerts
- Optional home assistant

Ecobee Smart Thermostat

- Control temperature with your voice
- Room monitors
- Discount through GA Power
- Large display



Visual and Tactile Alarms



- Sensors can be placed for door bells and phones
- Physical feedback works better for some
- Many non-auditory alert options
- Increases safety and independence





AT for Safety

Man Down Apps

- Sends immediate alerts in case of an emergency or injury.
 - Emergency contacts are notified via text, phone or e-mail
 - Once app is activated, phone movement is monitored
 - If phone is motionless for 30 seconds a pre-Alarm warning starts
 - If the phone is not moved within another 30 seconds Full Alarm mode is activated; phone will send out a text, email and phone call to emergency contacts. Message will include gps location of the person in distress.
- \$1.99
 - IOS and Android



- Serene Innovations Kit

- Can alert with chime or vibration
- Wireless transmit up to 100 feet
- Includes wearable unit, doorbell, home/cell phone ringer/flasher, and bedshaker



- Personal Pager

- Alert family/caregiver for assistance
- Detects and alerts you to WEA* public emergency broadcast warnings of impending emergencies or disasters.



- Safety Tape



Safety

- Consider options:
- Ability to monitor through remote access
- Multiple users



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



Amazon Echo



- Speech-controlled speaker system
- Voice recognition - further distances
- All functions are server side
- Compatible with many EC Brands



More access with voice



- Video calling
- View weather
- News alerts
- Recipes



- Hands free camera
- Style assistant
- \$199

Google Home



- Voice control
- Home automation:
- Ask it questions
- Tell it to do tasks
- Google Mini



AT for Vision

Hawkeye Ultra-lightweight Golf Scope

- Fits easily in the palm of your hand
- Fixed focus
- No focusing necessary



Magnifiers

- Lots of different types
- Handheld
- Some with a LED Light
- Full Page



[Home](#)[Order](#)[Q&A](#)[In the News](#)[About](#)[Contact](#)

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.





AT for Hearing

Assistive Listening Devices

- Audio/Hearing Loop
- Infrared System
- FM System
- Wearable device



Visual Alerts

- Visual doorbells
- Flash on your cellphone
- Smoke/carbon monoxide detectors
- Flashing computer screen



Physical Alerts

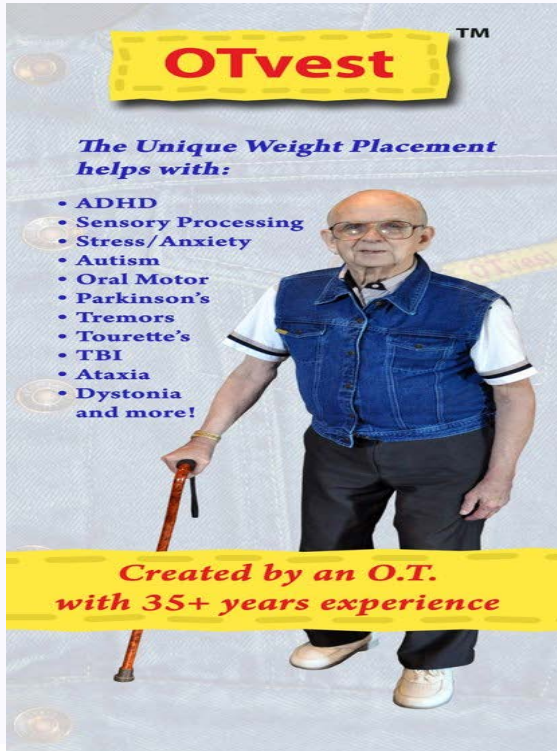
- Haptic alerts on phone and wearables
- Vibrating alerts
- Bed shaker





AT for Mental Health

AT for physical and emotional supports



OTvest™

The Unique Weight Placement helps with:

- ADHD
- Sensory Processing
- Stress/Anxiety
- Autism
- Oral Motor
- Parkinson's
- Tremors
- Tourette's
- TBI
- Ataxia
- Dystonia and more!

Created by an O.T. with 35+ years experience



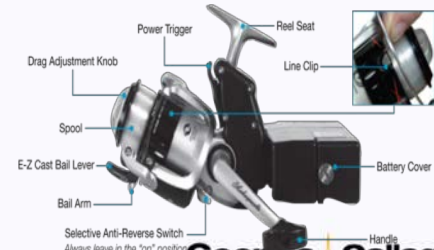
Experience
the calm and
stabilizing effect
of the denim, weighted,
OTvest™

Recreational AT

- Recreation is a necessity
- Numerous benefits – Cognitive, Mood, Physical, etc.
- Recreation comes in many forms – Video Games, Card Games, Board Games, Playing Music, Sports, Exercising, Crafts, etc.
- There are options and technologies to make each of these activities accessible.



Playing card holder





- Universally designed, interactive music player.
- Can be used for a variety of therapies including OT, RT, and music therapy.
- Music has calming effects on behavior.

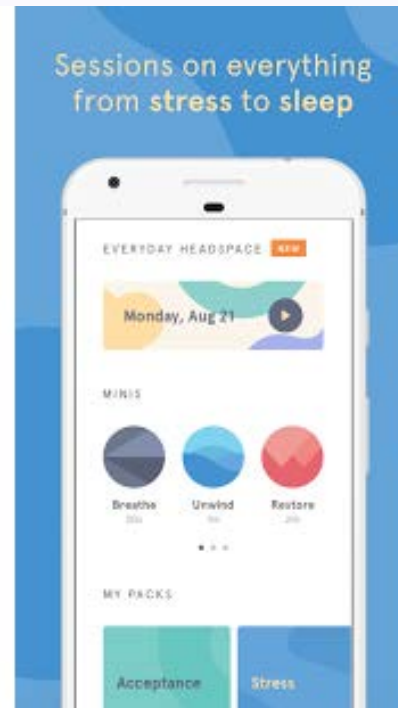
Zen Garden



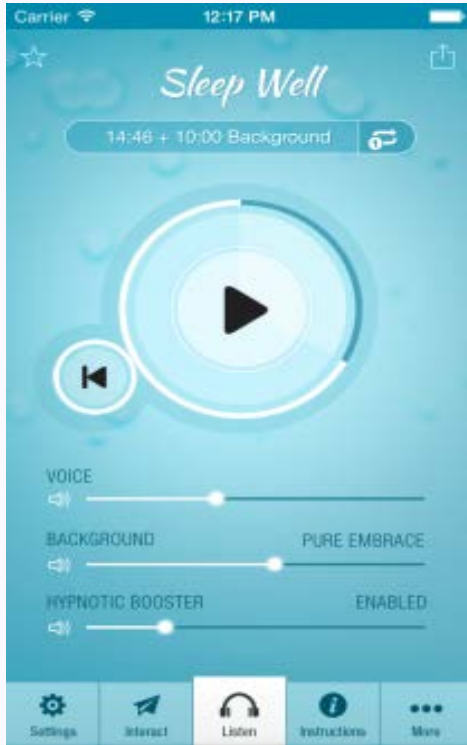
- Relieve stress by tending the mini garden and focusing on the present.
- Promotes meditation
- Enhances creativity
- DIY/Low-tech

Headspace: Meditation

- Breathe, relax, and focus
- Hundreds of guided meditations
- “Mindful Moments” to keep you present throughout the day
- Add friends to meditate with you
- Track your progress and time spent meditating
- Has some sessions for kids
- To learn more visit:
<https://www.headspace.com/>

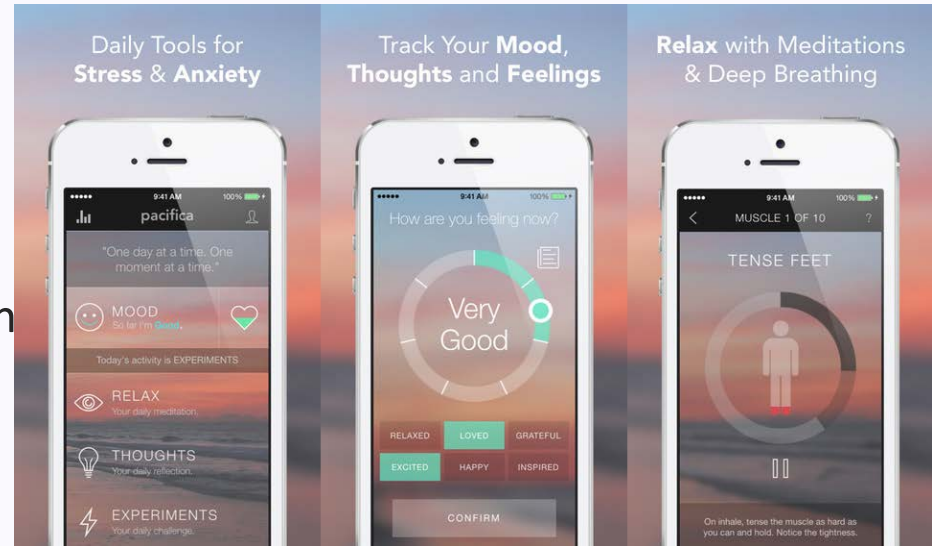


Sleep Well



- Learn to reduce anxious thoughts and sleep calmly after listening daily for a few weeks
- Change your mindset through subconscious thoughts to prepare for deeper sleep.
- App for self hypnosis
- To learn more visit:
<https://surfcityapps.com/app/sleep-well-insomnia-hypnosis/>

- Daily tools for
 - Stress
 - Anxiety
 - Depressions
- Based on cognitive behavioral therapy & mindfulness meditation
- Available on iOS, Android, and web based
- To learn more visit:
<https://www.thinkpacifica.com/>



Sensory Bottles

- Easy to make in class or at home.
- Provide a calm down effect
- Engages a person's senses





What's New in AT?

Gaming Accessibility



- Social and Recreational outlet
- Achievements
- Benefits
 - Cognitive
 - Motor Control
 - Decision Making
 - Sense of belonging

3d Printed Technologies



- Inexpensive
 - Free to download
 - Printing Services
- Complex mechanisms
- Quick Prototyping
- www.thingiverse.com

Luna Lights

- Unique pressure pad that turns on small portable lights when someone gets out of bed
- Turn lights off when returns to bed
- Monitors- tell how often someone is getting up in the night
- Created to prevent and detect falls
- <http://www.lunalights.org/>





Questions?



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TOOLS *for* LIFE

Georgia's Assistive Technology Act Program



Disclaimer

- Disclaimer: Produced by Tools for Life (TFL), which is a result of the Assistive Technology Act of 1998, as amended in 2004. TFL is a program of the Georgia Institute of Technology, College of Design, AMAC Accessibility Solutions and Research Center and was made possible by Grant Number H224C030009 from the Administration for Community Living. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HHS.