

Maria Kelley Liz Persaud & Carolyn Phillips

With contributions from Ben Satterfield & Martha Rust
www.gatfl.gatech.edu









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.







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

Technology Act Program



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 LS 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)









ABOUTUS

PROJECTS

PUBLICATIONS / PRESENTATIONS

NEWSROOM

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

Text Size:

☐ Increase ☐ Decrease ☐ Normal Current Size: 100%

Projects

Research Projects

Development Projects

Training Projects

Connect with Us!

Like us on Facebook

Follow us on CWITTER

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

Technology Transitions Policy Task Force Workshop

More News

Upcoming Events

September 30, 2013 - 7:00am
STEM Diversity Career Expo



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





News

Science20 featur

Aging in Place: Questions to Consider

- Safety
- ADLs
- Self care

- Physical barriers
- Emergency exits
- Entrance
- Hallways
- Living room
- Kitchen
- Bedroom
- Bathrooms
- Utility room





Safety questions for the exterior and entrances include:

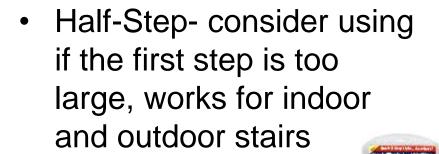
- ☐ Is there adequate lighting to see walkways and entrances?
- ☐ Are steps in good repair and do they have non-slip surfaces?
- ☐ Are there handrails for the steps and are handrails securely fastened?
- ☐ Do the handrails run continuously from the top to the bottom of the entire flight of stairs [FE]



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 entrand wheelchair users and non-users.

Entrances



 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





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

Skid-resistant rugs

 Smoke alarm for deaf/hard of hearing











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







Georgia's Assistive Technology Act Program

Lamp voice control

Lights



Caseta Wireless Remote Plug-In White Lamp Dimmer Kit





Telephones













Logitech Harmony Remote

The Logitech Harmony Remote product line has recently added a hub and an app for your mobile device that allow you to control your entertainment devices.

Multiple tasks, such as turning on the TV, switching it to the appropriate source, turning on the cable box and the audio receiver can be programmed into a single button.







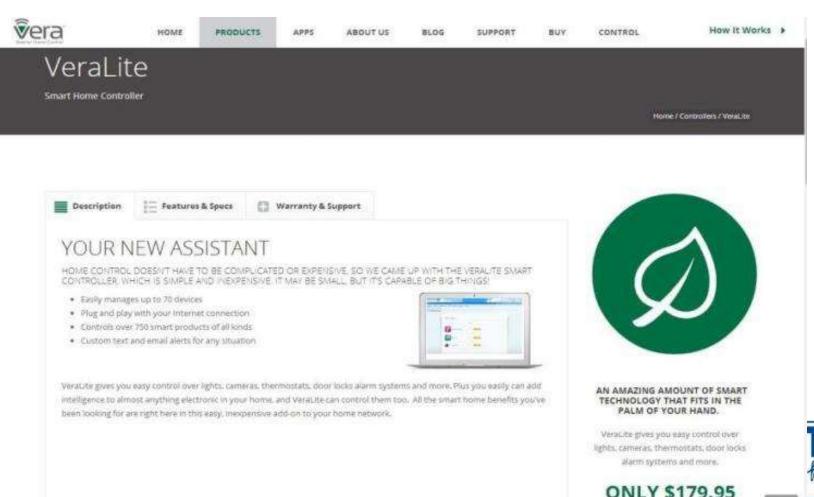
Environmental Controls

http://getvera.com/controllers/veralite/

Georgia's Assistive

Technology Act Program

WHAT'S IN THE BOY





User Interfaces

Vera gateways can be controlled with a number of different interfaces.

- First Party Software
 - PC
 - MAC
 - Smartphone App



- Third Party Software
 - Smartphone Apps
 - TASKER! (Android only)







- 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

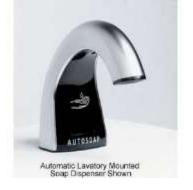


























Motorized Options

- Cabinets
- Sinks
- Stoves











MAC Accessible Storage

Store food/beverages on lower shelves

Lazy Susan and rollout cabinets can improve access









Refrigerator



Keep food/beverages on lower shelves
Lazy Susan allows for improved access to items in stored near the back of the fridge





Automatic Faucet Control



- Inexpensive \$15
- Easy to install
- Turn water on/off by making contact with the wand





Kitchen Safety



Stove Reminder

- Senses when stove is in use
- Chimes and light flashes every 10 minutes is stove is on





Kitchen Safety





 Program to automatically turn off the stove or oven if not activity detected





Contrast in the Kitchen



Source: www.afb.org





Pots & Pans



Improve access to equipment to improve safety and independence

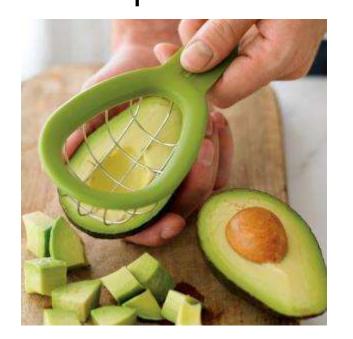




Kitchen Tools



Tools and small appliances that increase safety and independence







Bedroom

- Flooring surface and space
- Telephone access
- Access to closet
- No throw rugs
- Medical supplies
- Transfers in and out of bed
- Access to lighting
- Chair with arms can increase safety when dressing



AT Solutions: Bedrooms

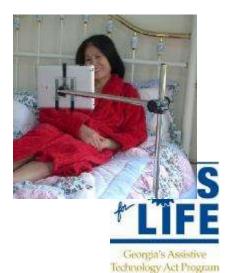
- Lighting
- Talking alarms
- Bed shaker
- Dressing stick
- Long handle shoe horn
- Easy to reach bedside lights
- Easy to reach phone





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

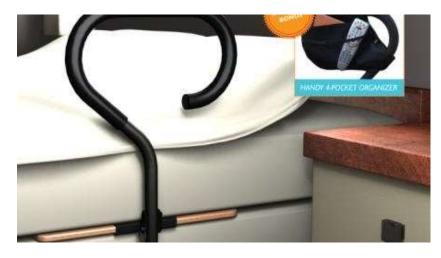






Mobility aids











Pocket Dresser











Closets

- Pull-Down Closet Rods
- Automated Wardrobe Lifts
- Slide-Out Shelving
- Lap-Height Shelving
- Waist-Height Shoe Racks
- Tilt-Out Hampers







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























Bathroom

No threshold walk-in or roll-in shower with non-slip flooring and a bath seat in tub or built in bench in shower to allow for seated bathing

Adjustable height handheld showerhead grab bars

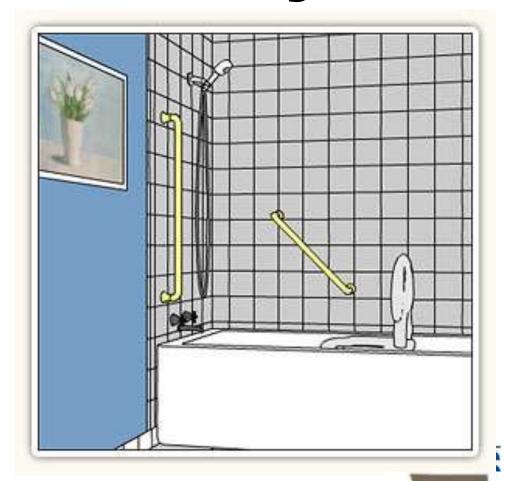
Easy-to-reach anti-scald faucets with lever style handles on sink and in bathtub or shower

Raised comfort height toilet with seat 17 to 19 inches off the floor



Bathroom Safety

Installation and proper placement of grab bars increase safety and function





Bathroom Safety











Bathroom Sink







Safety

Anti-Scalding Faucet

- anti-scalding devices turn off the water if the temperature gets too hot.
- easy-to-install







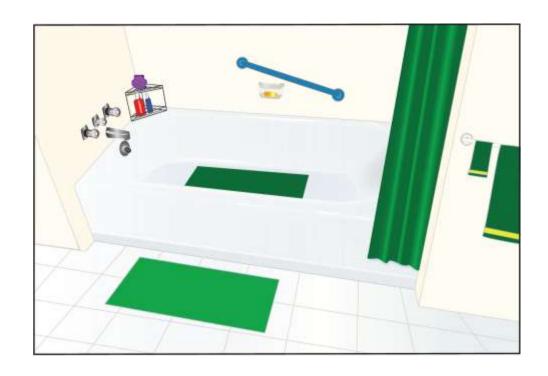


Using Sugru to increase contrast and grip





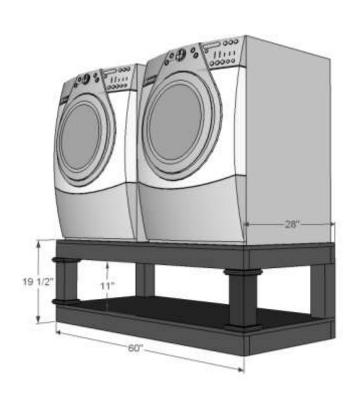
Bathroom Safety





Utility Room











Safety

- Smoke alarms
- Fire extinguishers
- Egress
- Call alerts





vtech CareLine

- No monthly fees
- Large buttons & photo speed dial
- Voice or touch activation for pendent calls
- Program reminders
- Pendent will speak time







Man Down Apps

- Sends immediate alerts in case
 of an emergency or injury.
- Emergency contacts are notified 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 gps location of the person in distress.

- \$1.99
- IOS and Android







Safety







Automatic Medication Dispenser







Reminder Rosie

- Use voice commands to tell time and turn off alarms
- Easy set up by spoken word
- Record reminders in any language
- 10 personal reminder alarms





Alerting Systems











What is SimpleC?

Easy to use care and wellness program, delivered via technology, that uses life history details combined with photos, music and voice recordings to create personalized audio-visual based therapies for individuals.



These therapies become a living care plan and toolset for care staff and family that is always there to help individuals maintain independence and function.



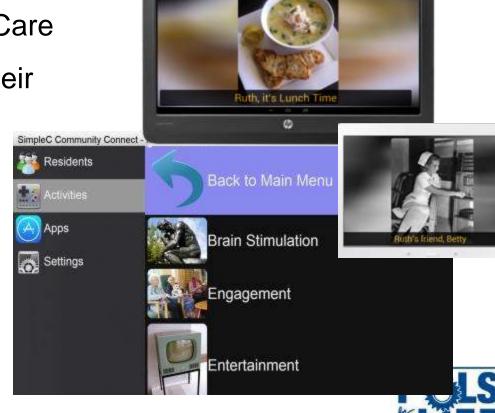


One Solution

 C

for residents, families, staff and communities

- Wellness Model
- Supports Person Centered Care
 Validating the Person and their
 Unique Life Story
- Activity Programming
- Engages Families
- Supports the Culture of the Community



Technology Act Program

Centered Around Care Goals





Our innovative approach weaves care needs with personalized content to develop interventions that modify behavior to achieve:

- individual goals
- enterprise goals

Resulting in:

- ↑ Engagement & participation
- ↓ Symptom frequency
 - ↑ Goal attainment
- ↓ Psychotropic drug use
- ↑ Staff effectiveness &



Companion: Individualized And Dynamic



Companions are personalized for each resident with:

- therapies addressing individual symptoms, care needs & goals
- media reflecting personal interests and life details
- family photos, if provided
- preferred music, and Trusted Voice recordings in appropriate language

Companions also contain therapies addressing each community's care and wellness interests:

- morning care
- meals
- hydration
- bathing
- activities
- sleep



Resident		Simple-C						
Music Preference types not listed.	s: Check the types of musi-	c the person most	prefers. Bloc	ik spaces	are available t	to write in		
Big Band	Country - Modern	Decade 1950	State True	Idonal	Prang Pop - Activ			
Boyes Baggess Constant Institut Constant Tracks Constant Tracks Constant Tracks Constant Colm Routines Is pull in a good Is comforted by Is discouraged Breakfast at: Lunch at: Dinner at: Snack at: Interests: Ches wellshe to write Anglores Anglores Anglores Basebal Bas	SimpleC Companion Quick Configuration Name of Resident Room/Agartment Number Companion/Device Number Birth Date, Race and Gender Today's Date Name of Person Filling out Form CARE NEEDS Chock at areas that are Debases Leaves of Person Filling out Form CARE NEEDS Chock at areas that are Debases Leaves of Person Filling out Form Debases Leaves of Person Leaves of Per		DOB To present for the presen	present for the individual			Dely Living challenges Duthing	
Gas-Virtige Catholic Reserve Set: a Schedul Interest/Topic: Interest/Topic: Interest/Topic: 0 2013 Sirpic: ILC	Five Things that file What means the most identify the most with a 1. 2. 3.	ike this Person	Who They	Are:	tuncies, and p	arts of their li	is indicey that they	
	5							

AMAC Accessibility for All

Three Main Therapy Uses



Prompt and Inform

- Activities
- Care events
- Housekeeping
- **Hydration**
- Meals
- Upcoming Visitors

Redirect or Calm

- Overstimulation °
- Restlessness
- Sleep

Wandering

Sundowning

Engage or Stimulate

- Under-stimulation
- Socialization
- Enhance Communication









Resources

- AARP Home Fit Guide
 - http://www.aarp.org/content/dam/aarp/livablecommunities/documents-2014/AARP-Home-Fit-Guide-2014.pdf
- American Foundation for the Blind; www.aft.org







Our Question to You: What have You Learned today?





Contact



Carolyn Phillips
Director, Tools for Life
Carolyn.Phillips@gatfl.gatech.edu



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



Daphne Brookins
AT Funding & Resource Specialist
Daphne.Brookins@gatfl.gatech.edu



Martha Rust
AT Specialist
Martha.Rust@gatfl.gatech.edu



Ben Jacobs
Accommodations Specialist
Ben.Jacobs@gatfl.gatech.edu



Rachel Wilson
Tech Match Specialist
Rachel.Wilson@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 [COA], AMAC 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.

