What's New in Assistive Technology

Danny Housley and Ben Jacobs
With contributions from the Tools for Life Team and Network

Tools for Life
AMAC Accessibility Solutions and Research Center
College of Architecture | *Georgia Institute of Technology*

www.gatfl.gatech.edu

Agenda

Technology innovations are emerging at a rapid pace from wearables to robotics and mobile apps to connected homes. Much of this technology holds great promise for the future of independent living.

Presenters will share information on Tools for Life, Georgia's Assistive Technology Act Program and how to access services. Other topics will explore products on the market that have the potential to improve independence and improve quality of life.

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

AMAC Accessibility

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

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 & TFL Network

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

The TFL Network is Growing!

Visit us online!

AMAC
Accessibility for All

TOOLS for LIFE
Georgia's Assistive Technology Act Program

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

TFL AT Demo Lab

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

What is Assistive Technology?

Assistive Technology Device is any item, piece of equipment or product that is used to increase, maintain or improve functional capabilities of individuals with disabilities.
Public Law 105-394 [29 USC 2201]

Low/No-tech

- pencil grip
- adapted books
- slant board
- highlighters, tape
- magnifiers
- color coding
- read to out loud
- picture schedule
- strategies for memory
- colored transparencies
- Proof readers
- note taker

Mid-Tech

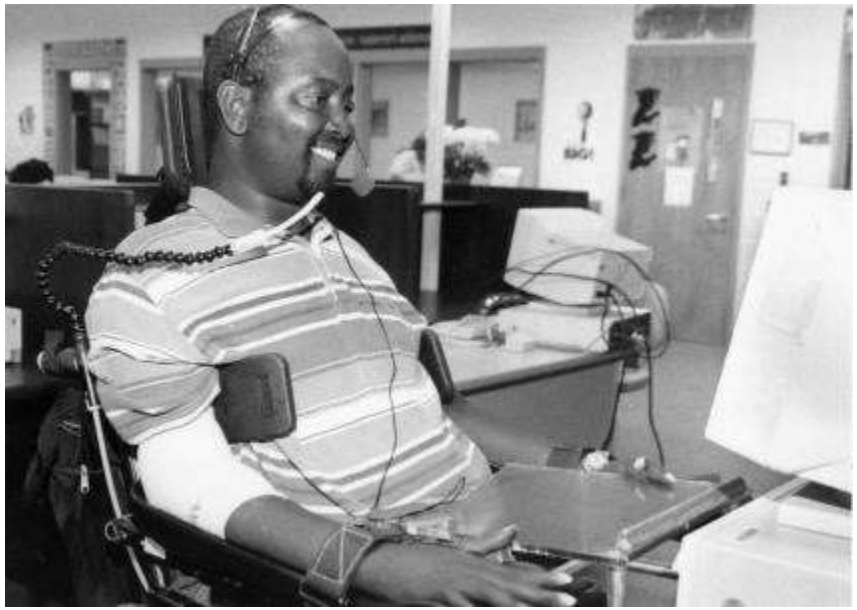
- word prediction
- text to speech
- speech to text
- spell checkers
- talking calculators
- digital recorders
- organizers
- e-books
- adapted keyboard
- adapted mouse
- adapted toys
- CCTV
- apps under $100

High-Tech

- computer/laptops
- tablets/phablets
- smartphones,
- smartpens
- OCR scanner/software
- magnification software
- speech output devices
- switch, joystick access
- scanning access
- voice recognition
- environmental control devices
- apps over $100

Why Assistive Technology?

- For a person without a disability, technology makes life easier.
- For a person with a disability, technology makes life possible.
- **TIP: USE AT! We have yet to meet a successful individual who does not use any AT.**



Effective AT Assessment

- Uses a feature-match approach
- Incorporates on-going educational/life planning
- Hanging out with Intent
- Targets natural environments
- Utilizes the competencies of multiple team member
- Demands meaningful follow-through

AT Helps!

- Assistive Technology strategies and solutions can help support those living with disabilities, the aging population and those who have problems with:
  - speaking
  - hearing
  - seeing
  - moving around
  - getting places
  - memory
  - cognition (thought processes and understanding)
  - daily living activities, such as dressing and preparing meals
  - socializing.

Assistive Technology Funding Solutions

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

Friends of Disabled Adults and Children - FODAC

- **With a strong network of volunteers and partners, FODAC provides refurbished equipment and services improve their overall quality of life.**

- **Refurbished items can be cost effective**

- **FODAC is a partnering agency and have programs for:**
  - **Durable Medical Equipment**
  - **Home Mods**
  - **ReMount**
  - **Disposable Medical Equipment**

- **www.fodac.org**

Dollars and Sense

- **Your online funding guide**
- **Create and add resources**
- **Local, statewide and national**
- **http://gatfl.gatech.edu//ds**

What is Credit-Able?

- **Alternative Financing Program for Georgia**

- **Low interest, small loans**
  - **$250-$5,000**
  - **Interest rate of 5-9%**

- **Used for:**
  - **Equipment**
  - **Software**
  - **Home mods**
  - **Vehicle mods**

Why Credit-Able?

- Flexibility
- Personal
- More accessible
- Build/re-build credit
- You save money

AMAC
Accessibility for All

TOOLS for LIFE
Georgia's Assistive Technology Act Program

Eligibility Criteria

- Be a resident of Georgia

AND

A person with a disability **or** **A family member/guardian of a person with a disability** **or** **An employer of a person with a disability**

AND

Be able to pay back the loan **&** **Using the loan for AT**

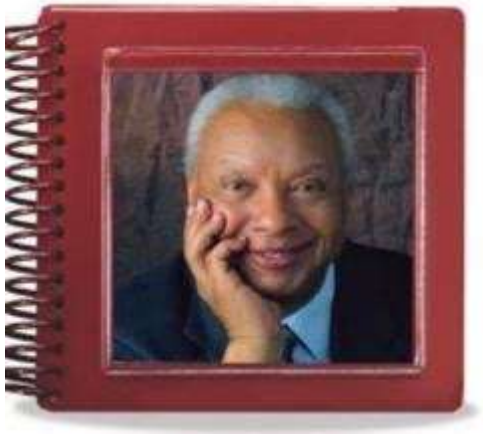
Exploring Assistive Technology Solutions

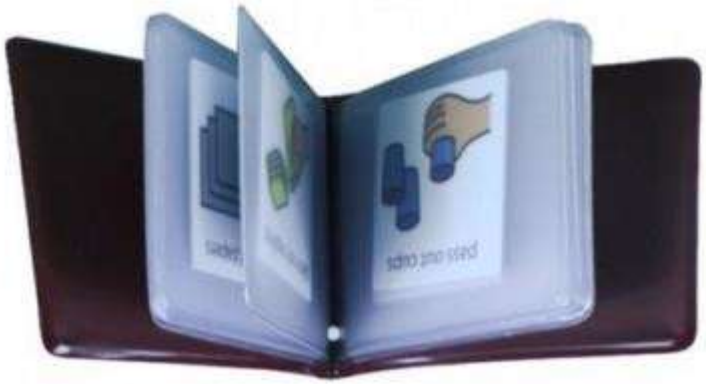
Communication Tools

- Low Tech
  - Symbols
  - Comm boards, wallets, rings etc.
- Mid Tech
  - Single Message
  - Sequenced Messages
  - Static Display Devices
- High Tech
  - Dynamic Display
  - Icon Sequencing

Communication

- **Low-Tech Options:**





Wearable Communication

Communication Everywhere

- Talk Track
- Hip Talker
- Step Pad

Simple Safety Solutions

- Anywhere lighting: “Stick-n-click” or motion detection lighting can illuminate darken hallways or dark staircases

- Skid-resistant rugs

- Smoke alarms for deaf/hard of hearing

- Organize cords by using toilet paper rolls. Cost efficient!

AT for ADL

- **Non-Slip Placemat**
  - Keep plates and other items from moving
  - Use on roller walkers
  - Cut to fit

- **Freedom wand**
- toilet aid

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

Health and Wellness

Epic ID 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

Reminder Rosie

- Alarm Clock
- Personal Voice Reminder
- Easy to use

Does this look familiar?

- How many prescriptions?
- How are they managed?

Medication Solutions

MedCenter

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

Pillpac.com

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

www.alzstore.com

- Holds 29 doses
- Set up to 4 alarms each day

Telephone Options

Future Call

- Amplified Picture Memory Phone
- Amplified Volume - Up To 40dB
- Hearing Aid Compatible
- One-Touch Emergency Button
- Easy-To-See Oversized Photo Buttons
- Bright Visual Ringer

Clarity Picture Phone

- Amplified Picture Memory Phone
- Amplified Volume - Up To 18dB
- Hearing Aid Compatible
- Easy-To-See Oversized Keypad Buttons
- 9 Programmable Photo-Dial Memory Buttons
- Bright Visual Ringer

Defining Environmental Control

- An environmental control device is a form of electronic assistive technology which enables people with significant disabilities to independently access equipment in their environment e.g. home, classroom and/or office.

- An environmental control controller is the device that controls the equipment – like a remote control. The controller is used to select a range of different options. Each option will control a piece of equipment in a certain way – for example: volume on a TV.

Who needs Environmental Control?

- Anyone with complete loss or minimal ability to control devices in their immediate environment (such as the television, computer, phones, lights, doors, etc.).

- Technology that allows a people with disabilities to gain this type of control has been called an environmental control system and/or units (ECS, ECU).

Types of Environmental Control

1. **Switch** - the user activates an accessible switch to control the environmental control unit, generally done through menu scanning.
2. **Voice** - the user speaks the commands to the environmental control unit " turn on bedroom light."
3. **Both**

- The more options available (switch, voice, or both) the more independence can be gained.

- **Tip!** Look for the ability to customize or combine the control (input) devices to meet needs. While a voice-activated system can give the most independence, one's voice can become weak by the end of the day, so an ECU that can be controlled by both voice and switch may be very beneficial.

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

Schlage Z-Wave Keypad Lever

- Works with PIN, Key, or Z Wave
- Compatibility workarounds with Amazon Echo are not complex
- Independently manage security when paired with a security camera
- $199.99

Xbox One with Kinect

- Control your entertainment with your voice
- Netflix, Skype, Youtube, Internet Browser, Music, Television, etc.
- Gesture Control
- Price varies depending on bundle.
- Xbox One ~ $~~350~~ $299
- Kinect ~ $100

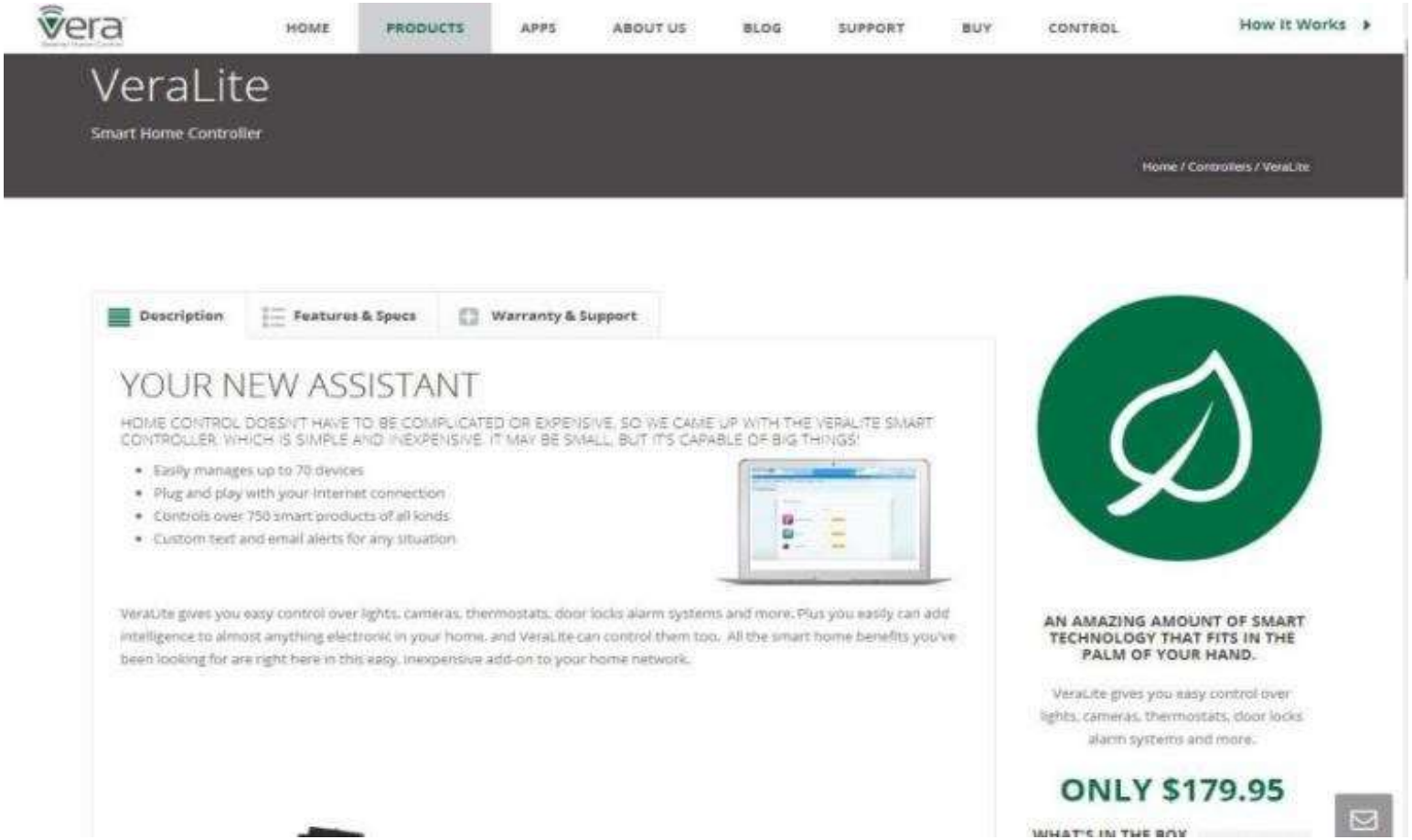
AMAC
Accessibility for All

TOOLS for LIFE
Georgia's Assistive Technology Act Program

Simple Environmental Control

- **PowerLink 4** – switch control over simple appliances
- **Jelly Beamer** – cordless remote control via switch

Vera and Veralite



Vera 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)

Device Automation

Device automation is a type of application that allows you to really unleash your mobile device's capabilities.

In a nutshell, an automation app is a program that tells your device "When this happens, do this!"

- "When something is plugged into the headphone jack, open my music app"
- "When I open the navigation app, turn GPS on"
- "When my phone is connected to this cell tower, turn on wifi and connect to my home wifi"

Device Automation Apps

- IF by IFTTT
  - If This Then That (IFTTT) is a simple free automation app available on both IOS and Android devices. IF allows you to create recipes easily or to use recipes others have already created.

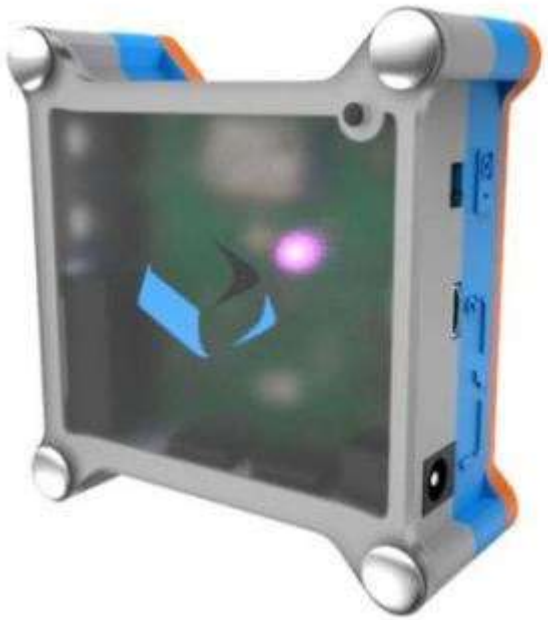
- Tasker
  - Tasker is a more robust automation app for Android. It costs $2.99 but offers more ways to trigger your automation and more in depth control of your device.

Fact!

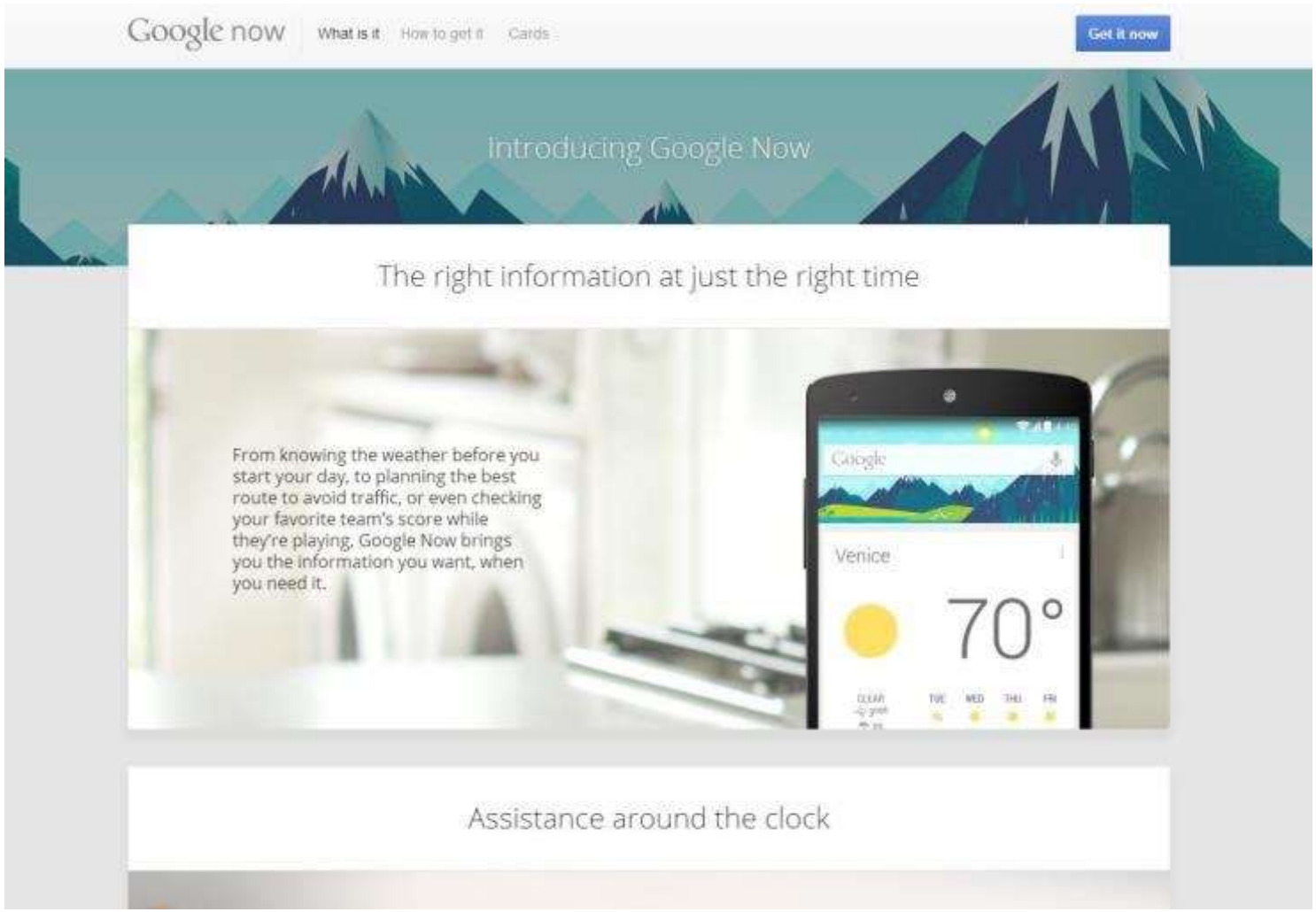
If you can control your computer, you can control your environment!

Tecla Shield

- Wireless device that controls smartphones and tablets using your external switches or the driver controls of your power wheelchair
- The only switch interface that works with both iOS® and Android mobile devices.



Google Now


Google now
What is it
How to get it
Cards
Get it 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.
Google
Venice
70°
Assistance around the clock

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

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

Apple Watch

- Receive Calls and texts
  - “Inner Circle”
- Apps
- Can be used for fitness
  - Heart Rate Monitor
  - GPS
  - Accelerometer
- “Hey Siri”
- Haptic feed back
- Calendar
- $499

TFL Gaming Initiative

- Tools for Life has recognized the importance of play and is starting an initiative dedicated to gaming with disabilities. Some objectives of the program are:
  - Demonstrate the accessibility of gaming
  - Build relationships with developers and aid in creating more accessible games
  - Increase public awareness of the importance of accessibility in games

- There are many benefits to playing games
  - Improved Hand/Eye coordination
  - Increased problem solving and cognitive function
  - Better handle stressful environments
  - Social outlet

DragonCon

- We are pleased to announce we will be presenting a panel on Gaming with Disabilities at DragonCon again this year!

- Please join us on Sunday, September 4 at 7:00pm in Augusta E-G in the Westin Peachtree Plaza Hotel in Atlanta.

FRU

- FRU is a puzzle platformer that features an innovative use of Kinect, in which your silhouette becomes a "portal" between two worlds.
- Encourages physical movement, activity, and cognitive function.
- Can be played individually of cooperatively.

XOGO

- The first fully customizable adapter that connects people with disabilities to consumer technology.
- Compatible with USB and HID devices, switches, game controllers, and Bluetooth.
- Control for your console as well as cable boxes, media devices, and smart home technology.

Xbox One Elite Wireless Controller

- First party controller with accessibility features.
- Modular construction includes multiple thumbsticks, directional pads, and paddle buttons.
- Remap any input to any button.
- Highly customizable.

QuadStick

- Mouth operated game controller for those living with Quadriplegia.
- Joystick, four sip and puff sensors and a lip position sensor.
- Compatible with PS3, Android, and PC.
- USB adapter allows control of Xbox 360, Xbox One and PS4.

Xpadder

- Xpadder is a free program for Windows that allows you to configure the inputs on most videogame controller any way that you like.
- You can have media controls assigned to different buttons so you can easily pause or control volume.
- The mouse as well as the keyboard are easily emulated on the controller as well.

TrackIR

- TrackIR is an optical motion tracking game controller for Microsoft Windows
- Tracks head motion with up to 6 degrees of freedom.
  - Forward/Backward
  - Left/Right
  - Up/Down
  - Roll
  - Pitch
  - Yaw

Boogie Dice

- First self rolling, sound activated, programmable dice.
- Activated using sound.
  - Clap, snap, thump
- Set roll duration, LED colors and more.
- Smartphone app can also be used to activate the dice.

TOOLS for LIFE

Georgia's Assistive Technology Act Program

The Tools for Life Team

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

Sarah Endicott
Research Scientist
sarah.endicott@design.gatech.edu

Danny Housley
AT Funding & Resource Specialist
Danny.Housley@gatfl.gatech.edu

Justin Ingham
Support Specialist
jingham3@gatech.edu

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

Krista Mullen
Speech Language Pathologist
krista.mullen@gatfl.gatech.edu

Samantha Peters
Support Specialist
seters37@gatfl.gatech.edu

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

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

Rachel Wilson
AT Specialist
Rachel.Wilson@gatfl.gatech.edu

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.

Thirsty for More? Additional Solutions and Information

Calendars

COZI Family Organizer

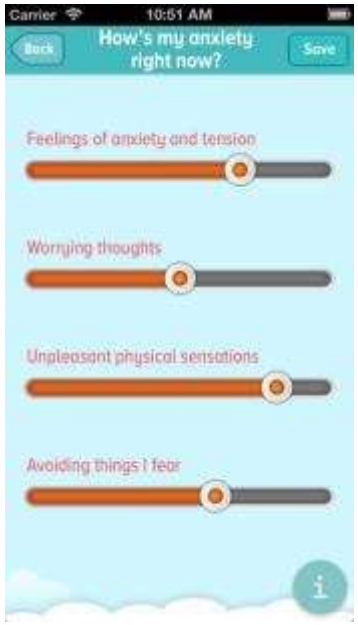
- Family Calendar: Easy to use color-coded calendar, see individual schedules or the whole family at once
- Reminders: Set reminders for anyone in the family and get a weekly email of upcoming appointments
- Shopping and To Do Lists: Create as many lists as you want and access them anytime, anywhere
- Meals and Recipe Box: Easy to use dinner planner, plus store all your favorite recipes
- One Account for the Family: Everyone's schedules and lists in one place the whole family can access

Apps for Mood/Emotion Management

- **Operation Reach Out (free iOS, Android)**
  - Developed by military to prevent suicide
    - Helps access thinking and when to reach out for help when in crisis
- **T2 Mood Tracker (free iOS, Android)**
  - Allows users to monitor moods on pre-loaded scales
- **MindShift (free iOS, Android)**
  - Tools for relaxation; develops new thinking; suggests healthy activities
- **Breathe2Relax (free iOS, Android)**
  - Uses guided breathing exercises to reduce anxiety

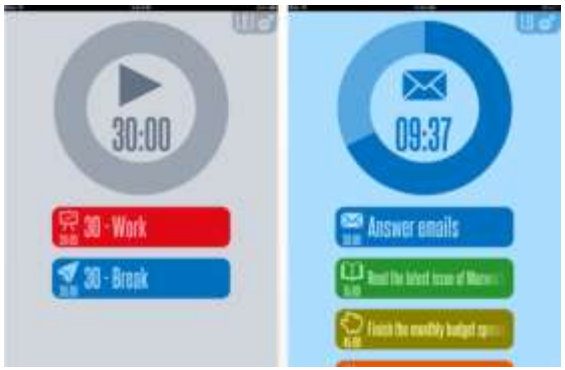
Anxiety Management

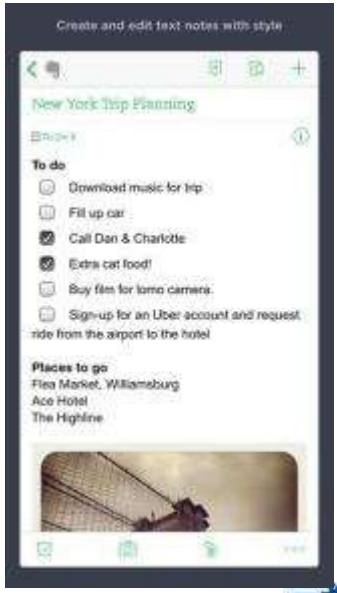
- Self-Help for Anxiety Management or SAM (free iOS, Android)
  - Tell the app how you're feeling, how anxious you are, or how worried you are.
  - Self-help features walk you through some calming or relaxation practices.
- iZen garden ($4.99, iOS)
- Koi Pond ($1.00, iOS)



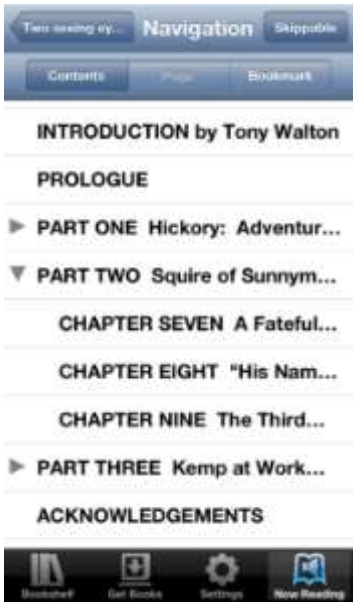
Task Management

- Evernote (free, iOS, Android, Windows)
  - allows you to store text, photos, and audio notes on your device of choice. Create "notebooks" and categorize notes for meetings and to-do lists. Notes are tagged with geo-location for mapping or search. Keep all info in one place
- 30/30 (free, iOS, Android, Windows)
  - Set up tasks and time needed to complete
  - App will tell you when to move onto next task





BARD Mobile



- Access directly to the National Library Service for the Blind and Physically Handicapped (NLS)
- Must be registered
- Settings
- Can use with braille display
- http://www.loc.gov/nls/find.html
- Free, iOS

FitBit

- Fitness tracker
- Variety of styles and colors
- Track Activity
- Track Food
- Track Sleep
- Track Heart rate
- Works with other Apps
- 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

Snug Vest

- inflates to provide adjustable and evenly-distributed pressure to the torso for a comforting hug-like squeeze without pressure placed on the stomach or chest.
- promotes independence as the user can self-inflate their vest in a discrete way to get the exact amount of safe pressure they need. Snug Vest enables the user to complete daily tasks with ease anywhere they go!