Exploring Assistive Technology for Everyday Solutions

Carolyn Phillips and Liz Persaud

With contributions from the Tools for Life team and Network

LeadingAge Conference
Atlanta, GA
November 12, 2015

Tools for Life
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 healthy aging.

Presenters will share current research projects and 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

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.

Georgia's Assistive Technology Act Program

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.org - 5,000 unique visitors a month

The TFL Network is Growing!

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

Come Visit Us!

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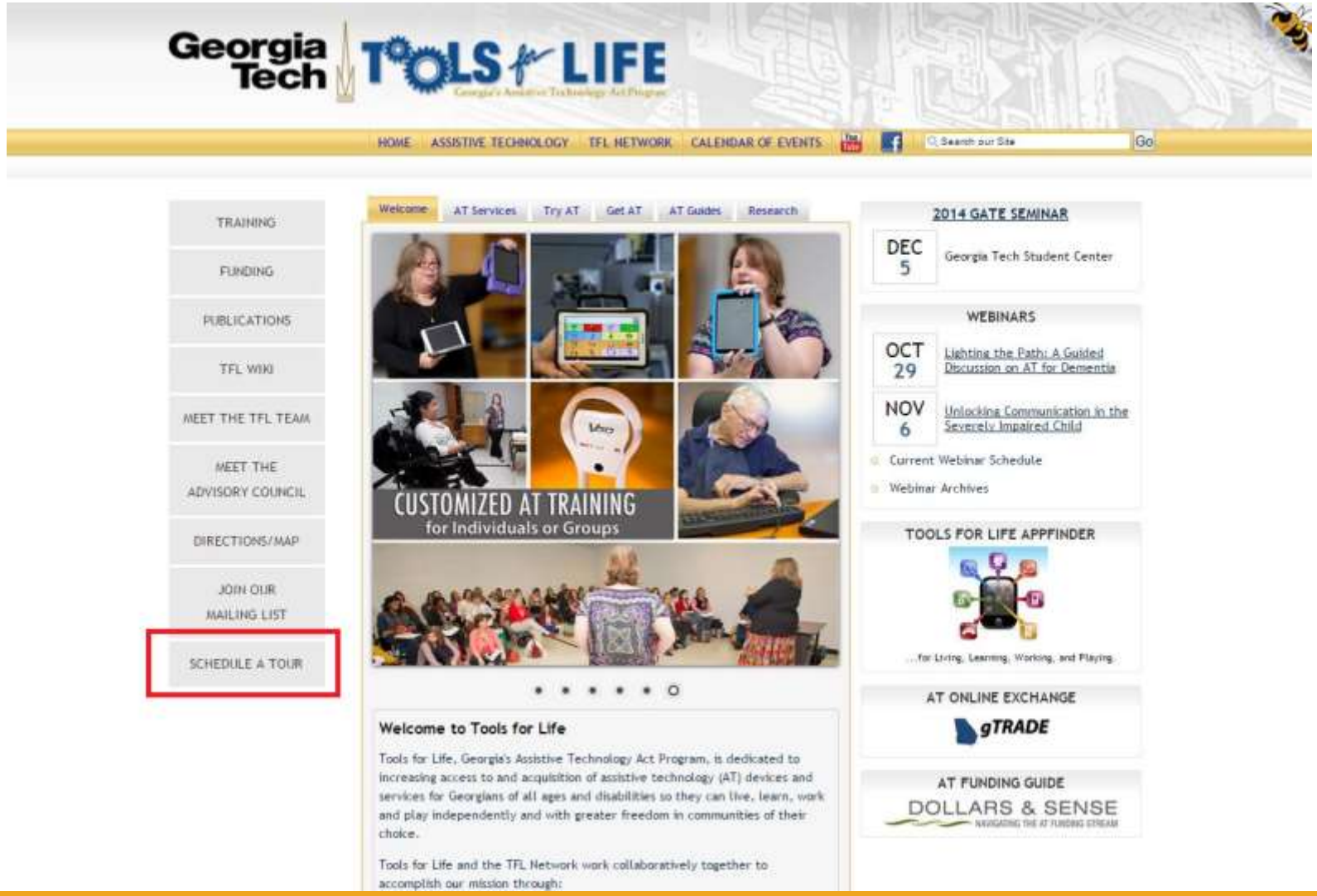


TOOLS for LIFE
Georgia's Assistive Technology Act Program

Hope

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

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.

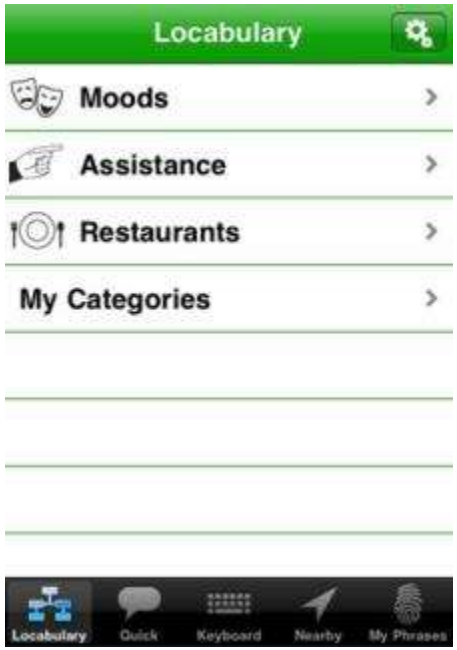
Remember these?

The Cloud is Here to Stay

Future

- Level out the playing field
- The Future is Contextual
  - GPS apps
  - Ads on Internet
  - Smart watches
  - Social Media

Locabulary



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

Adaptive Switch Laboratories (ASL)

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Accessibility for All

125 Spur 191, Suite C, Spicewood, TX 78669
Toll Free: (800) 626-8698 · Local: (830) 798-0005 · Fax: (830) 798-6221

HOME · PRODUCTS · TECHNICAL SUPPORT · COMPANY · EDUCATION · MEET OUR CLIENTS · FUNDING · NEWSLETTER

Products / New Products

ASL brings innovative products to our clients! We are here to help each client reach their full potential – our team creates products and designs as a direct result of the needs of those we serve. Our goal has always been independence and equal rights for those we work with....

Driver Control Packages

100 Series

104 Electronic Head Array

Driver Control Packages

100 Series

ASL 138 Extremity Control Joystick

Electronic Switches

200 Series

ASL 215 Round Proximity Sensor with Mono Port and 24 Volt Connector

Electronic Switches

Specialty Products & Adaptors

Specialty Products & Adaptors

Joystick to Mouse Emulator

- Allows any joystick to point & click just like a mouse.
- Joystick can position the mouse cursor and enables the joystick buttons to operate as mouse buttons.
- Provides computer access and control via joystick to do with limited mobility.

Mealtime Partner Feeder

- Variety of mounts
- Battery operated
- Control amount of food
- Control pause time between spoonful
- Adjustability of the spoon

Bestic Feeder

- Bestic can best be described as a small, robotic arm with a spoon in the end that can easily be maneuvered.
- Bestic is small and compact, has an attractive, discreet design and is very quiet which makes it blend into the dining environment in a natural way.
- By choosing a suitable control device, the user can independently control the movement of the spoon on the plate and choose what and when to eat.

Telepresence Robots

Mobile Devices

- Explore various mounting options to hold mobile devices
- Helps with posture
- Operate wheelchair or other mobility aid safely
- Builds confidence
- Now I can text the TFL team all the time!

VGo Telepresence Robot

- Enables a person to be in one location and have the freedom to move around in another location as if they were physically there.
- Reduces travel costs
- School
- Hospital
- Work Remotely

Quick Links

Request Info
Drive a VGo
Latest VGo News
Download VGo App

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. delete that

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.

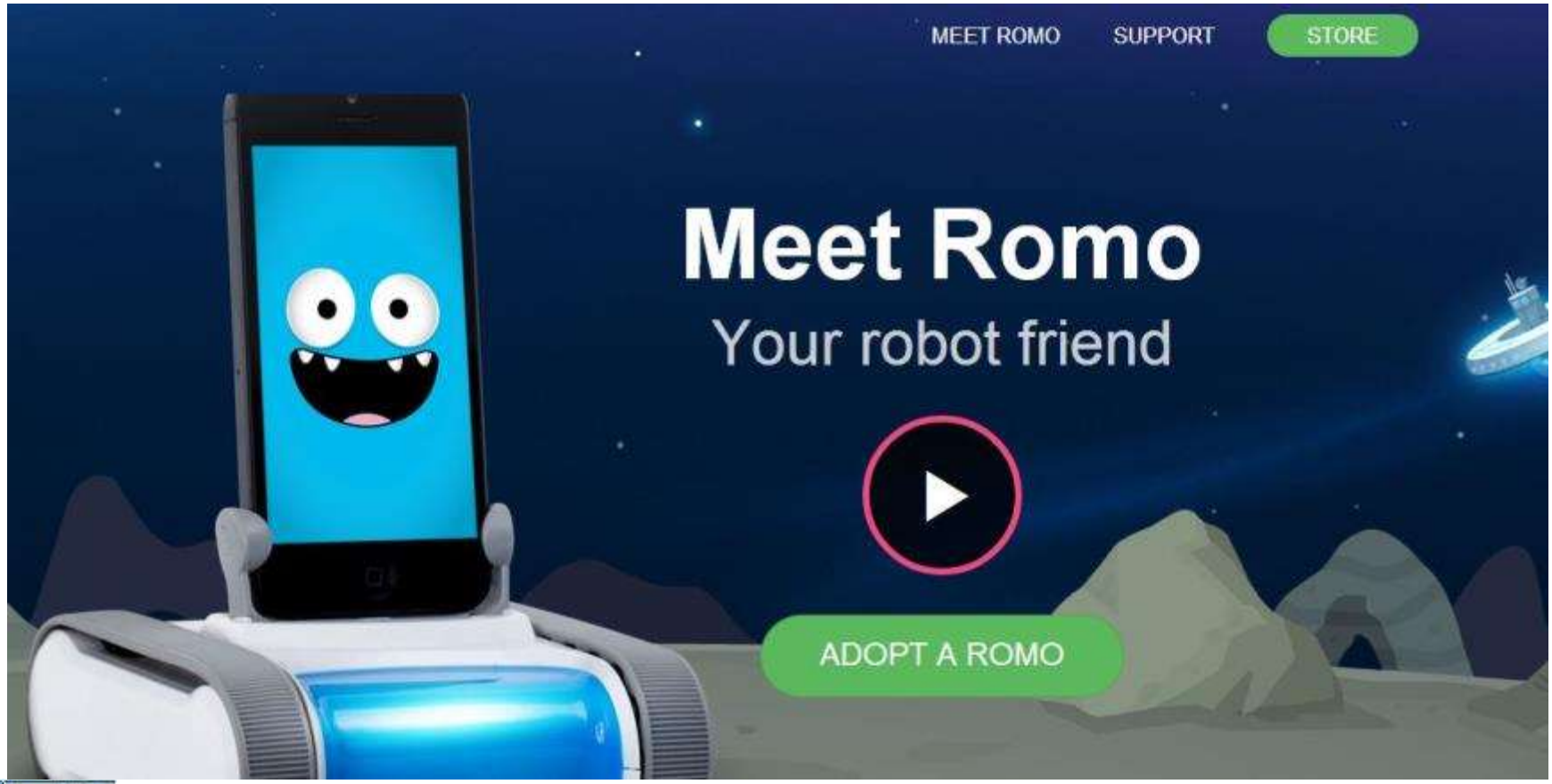
The benefits of using VGo in the workplace include

- 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

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

Romo


MEET ROMO
SUPPORT
STORE
Meet Romo
Your robot friend
ADOPT A ROMO

Romo Features

Advanced Features

Romo is a creative platform for the curious kid in all of us.

CUSTOMIZABLE BEHAVIORS

Create simple behaviors for Romo right inside the app, without having to write a line of code.

ROBOTIC VISION

Use device-optimized computer vision triggers in the Lab to make your robot smarter.

SDK

Control Romo's hardware and personality by coding your own iOS apps (Mac OSX required).

TELEPRESENCE

Control a Romo with two-way video/audio from anywhere in the world (iPhone 4S or newer required).

Wearables

Lechal Haptic In Soles

- Connects to smartphone via Bluetooth technology
- Foot gestures and voice commands
- Navigation via vibration of the soles, i.e.: left sole turn left
- http://lechal.com/products.html

Lumo Lift

- Lumo for back and head/shoulders
- Sends gentle vibration alert when posture needs to be corrected
- http://www.lumobodytech.com/

T. Jacket

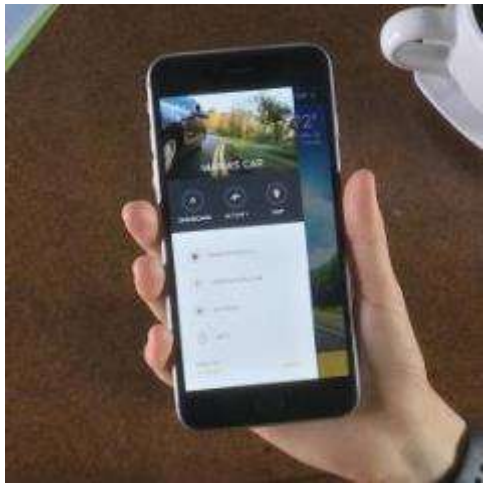
- Wearable technology vest
  - Provides customizable deep touch pressure
    - Uses adjustable air pressure compression controlled via smartphone app
    - http://www.mytjacket.com/

eSight

- Uses camera, display technology, and advanced computing to deliver a real-time video that enables sight for people with vision loss
- http://esighteyewear.com/

Viper SmartStart

- Remote start your car from the comfort of your home or office
- Remotely unlock and lock your vehicle right from your smartphone
- Locate and track your car, and receive alerts when your vehicle reaches a certain speed or enters or leaves a designated area



Accessible Gaming

TFL Gaming Initiative

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

Xbox One

- Microsoft has released an update to the Xbox One to include new “Ease of Access” features to make the operating system more accessible.
  - Screen Reader
  - Closed Captions
  - High Contrast
- The Kinect Sensor has been improved since the last generation console.
  - Integrated voice control
  - Tracks individual fingers
  - Can detect mood

Playstation 4 Media Console

- The PS4 isn't just a gaming console. It is a multimedia center.
  - Apps
  - Internet Browser
  - Social Network
  - Voice Control
  - Controller Input vs Keyboard and Mouse
- Sony recently updated their firmware for the Playstation 4 media console. This update included many new accessibility features appearing on a device of this kind for the first time ever.
  - Remap Inputs
  - Magnification
  - Font Customization
  - Color/Contrast control/inversion

Xpadder

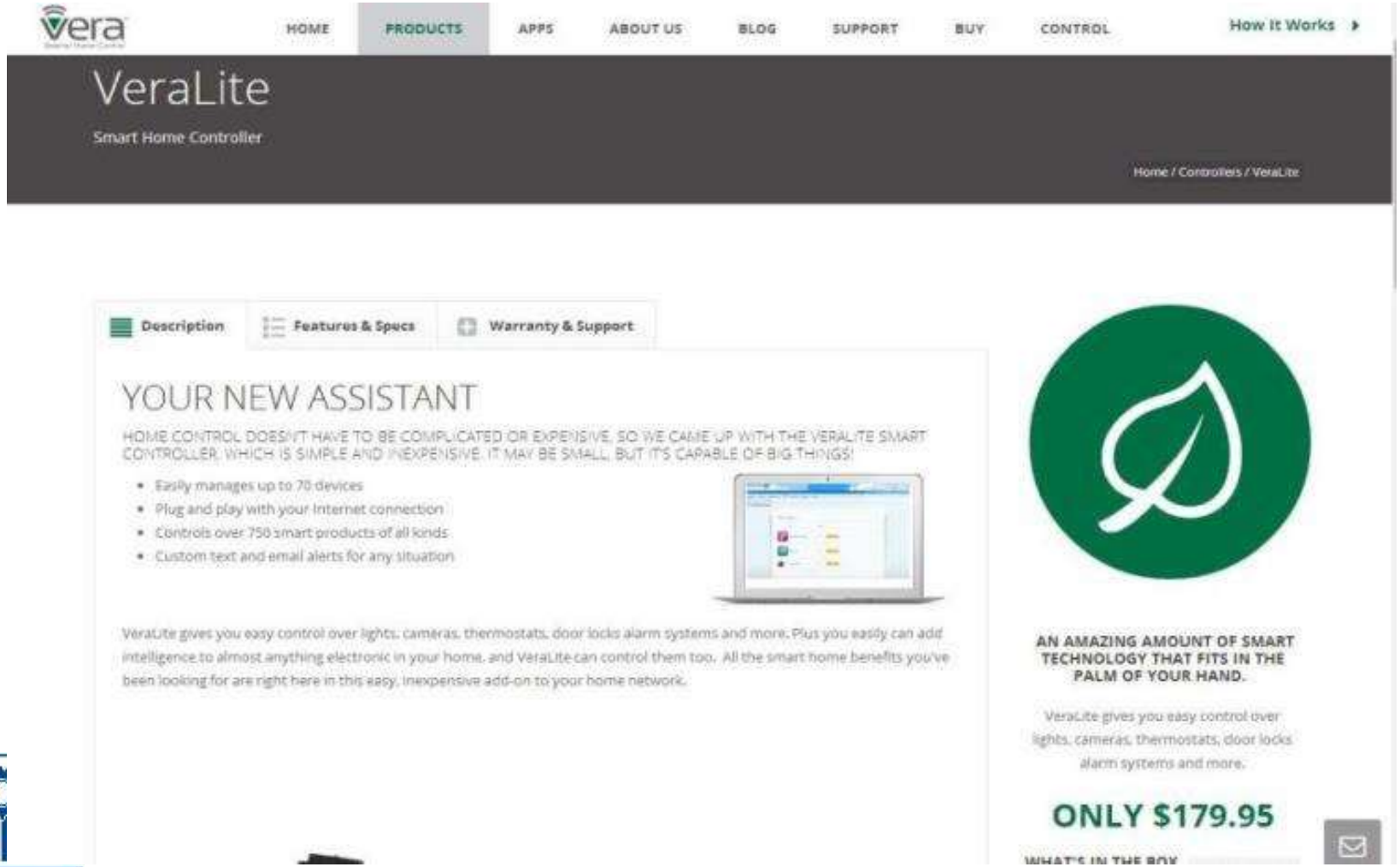
- Xpadder is a free program for Windows that allows you to configure the inputs on most videogame controller any way that you like.
- You can have media controls assigned to different buttons so you can easily pause or control volume.
- The mouse as well as the keyboard are easily emulated on the controller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

MOGAnywhere

- Enables you to play video games on your Apple or Android phone.
- Great for gamers with limited mobility
- $29.99 to $99.99

Environmental Access

Environmental Controls



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)

Tasker

Tasker is a phone automation application that allows you to really unleash your android device's capabilities.

Tasker in a nutshell 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"

More on Tasker

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Plugins for Tasker allow you to access other features of your phone and interface with other internet connected devices.

- Autovoice – Allows you to set up custom voice commands and turn always listening on
- Autocast – Enables you to control a Chromecast device on your TV
- Autovera – Interfaces with your Vera gateway

TFL Environmental Control Lab

Castle OS and Castle Hub

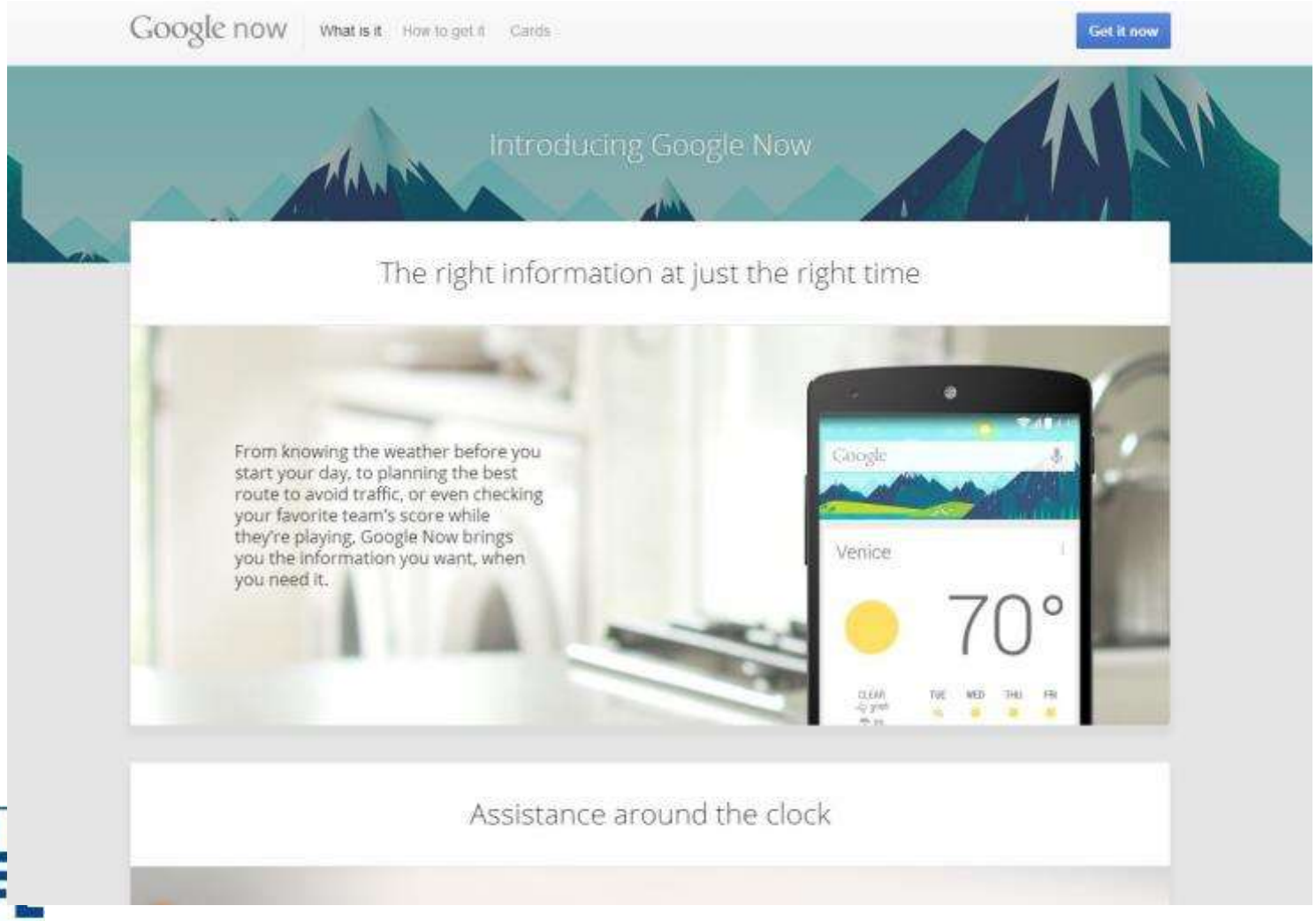
- Chris Ciccitelli has been a fan of Star Trek and was fascinated by the idea of a computer listening to you and taking any action requested. Sometimes it was just retrieving information, other times it controlled different ship functions.
- Chris worked for years creating a system for home automation/control that emulated the computer on Star Trek.
- Castle OS and Castle Hub are able to control all other EC devices regardless of what protocol it uses.
- This system operates using the microphone array in the Kinect camera to listen to you from anywhere in the room.

The Future of this OS is Limitless

- Google has the futuristic ambition and the funds to take Android to unprecedented heights. In many areas — such as predicting what users will do next.

- Google Now knows that in the morning you're getting ready for work and will tell you about the traffic.

Google Now



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Z Wave Modules

Z Wave modules differ from X-10 in that they work over a proprietary wireless network instead of existing wiring. Furthermore, instead of each module having to directly talk with the gateway, modules can communicate with each other.

This means that a command sent to the gateway is sent to all modules within range and each of those modules relay the command to all modules within their range, and so on, until the appropriate module receives the command.

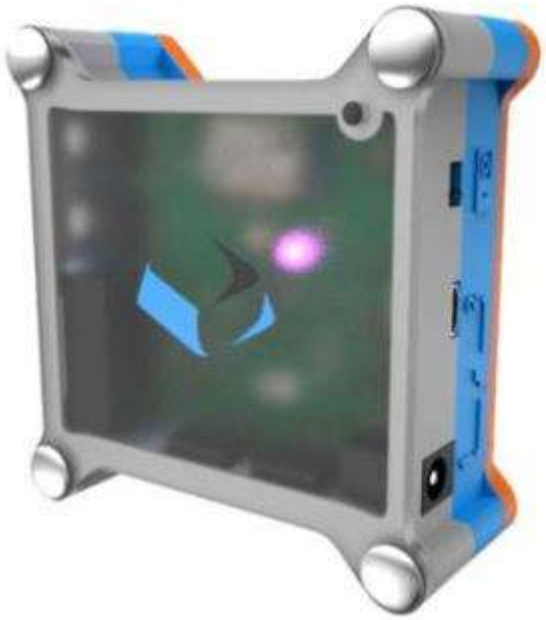
This allows your network of modules to extend far out beyond the reach of the gateway itself making multiroom, multilevel, and exterior/interior implementation all on one network a possibility

Shown at right is a dimmable 3 prong lamp switch.

Amazon Echo

- Speech-controlled speaker system
- Voice recognition - further distances
- Timers, news, information
- Invitation only
- $199, $99 Prime members

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.

Apps and the TFL AppFinder

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Know Your Tablets!

Consider Accessibility

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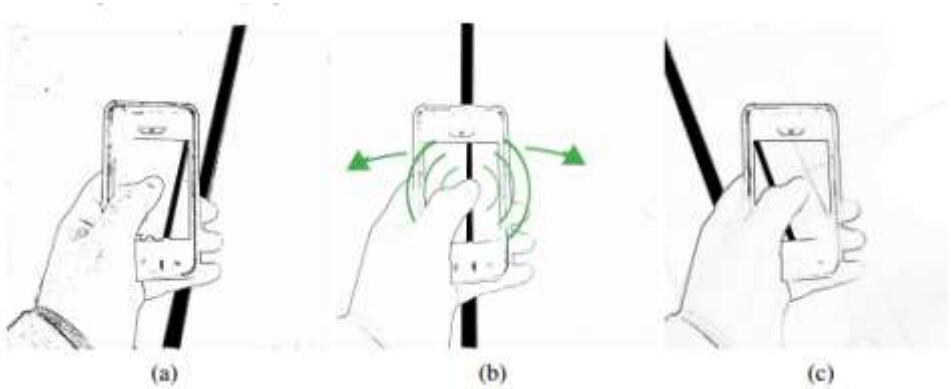
ARIANNA

- Path Recognition for Indoor Assisted Navigation with Augmented Perception
- Flexible and low cost navigation system for visually impaired
- Navigate colored paths painted or stuck on the floor revealing their directions through vibrational feedback
- http://www.technologyreview.com/view/523401/app-turns-smartphone-into-virtual-cane-for-the-blind/



Rapid SOS One-Touch-911

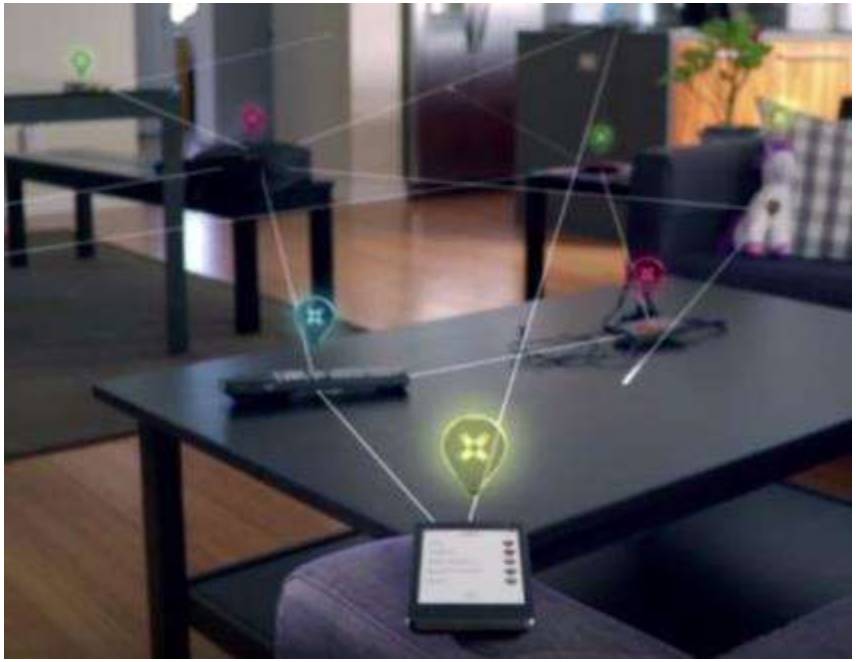
- Alert emergency responders even if you can't speak or don't know your location
- Enter your relevant medical information and demographic data
- Uses HTTPS, SMS, or native dialing
  - Connects over any medium-
  - Bluetooth
  - Data
  - Wifi
  - SMS
- Packages your data and routs it to local first responders
- www.rapidsos.com

TapTapSee

- Designed to help the blind and those with low vision identify objects they encounter in their daily lives.
- Double tap the screen to take a photo of anything, at any angle, and hear the app speak the identification back to you.
- Requires VoiceOver to be turned on.

Pixie

- Maps all of the digital things in your life
- Place a pixie chip on any device and map will tell you it's precise location
- https://www.getpixie.com/



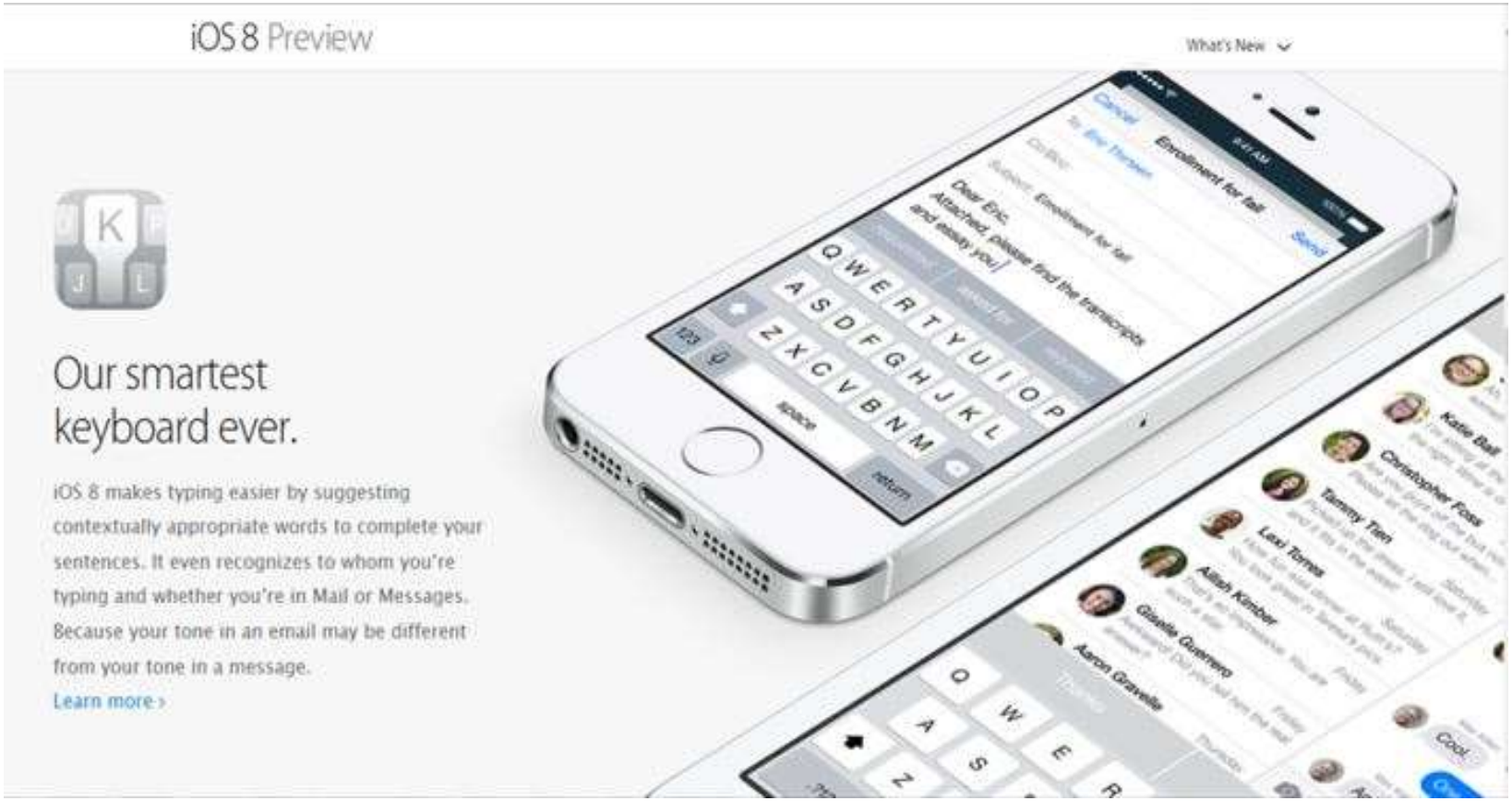
Talkitt

- Enables people who have motor, speech, and language disorders to easily communicate using their own voice
- Translates unintelligible pronunciation from any language into understandable speech
- http://www.talkitt.com/

iBeacon Technology

- Estimote Beacons
  - Wireless sensors that attached to any location or object
  - Broadcasts radio signals to smartphone
  - https://www.youtube.com/watch?v=lwnmx-5mBLM

iOS 8 is Here: Typing made Easier



Reminders

- Built-in App
- Works with VoiceOver
- Organize your reminders
- Siri
- iPad

iMovie

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

SkyGrid

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

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

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

Our Question to You:
What have You Learned today?

The Tools for Life Team

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

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

Danny Housley
AT Funding & Resource Specialist
Danny.Housley@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
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