



Access and Explore! Using Environmental Control in the Classroom

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www.gatfl.gatech.edu

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Agenda

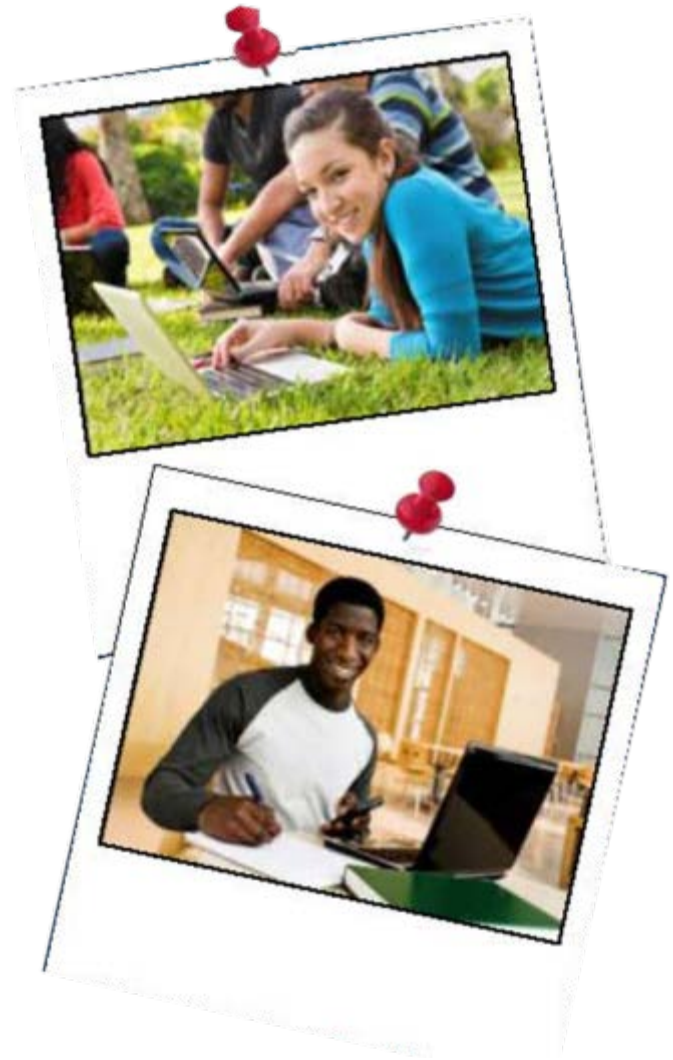
- The move from classroom to “real life” can be a major transition. Students go from being surrounded by their teachers, peers and helpers regularly, to being by themselves more often and needing to learn strategies for independence. Creating an environment in the classroom that enables learning independence can help ease the transition process. In this session, presenters will demonstrate affordable environmental control solutions that can be implemented in the classroom and then used throughout the transition process. Multiple environmental control options and options for interacting with the environment (voice, computer, tablet, phone) will be covered.



AMAC

AMAC Accessibility is a social change organization on a mission to create affordable services for governmental, private and non-profits organization working with individuals with disabilities.

Services include e-text, braille, captioning, assistive technology, office management software and consulting.



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.



Tools for Life AT Demo Lab

- Tablets
- Vision Items
- DME
- Communication
- Games
- Software
- Switches
- Keyboards





TFL Environmental Control Lab

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



HOME

PRODUCTS

APPS

ABOUT US

BLOG

SUPPORT

BUY

CONTROL

How It Works ▶

VeraLite

Smart Home Controller

Home / Controllers / VeraLite



Description



Features & Specs



Warranty & Support

YOUR NEW ASSISTANT

HOME CONTROL DOESN'T HAVE TO BE COMPLICATED OR EXPENSIVE, SO WE CAME UP WITH THE VERALITE SMART CONTROLLER, WHICH IS SIMPLE AND INEXPENSIVE. IT MAY BE SMALL, BUT IT'S CAPABLE OF BIG THINGS!

- Easily manages up to 70 devices
- Plug and play with your Internet connection
- Controls over 750 smart products of all kinds
- Custom text and email alerts for any situation



VeraLite gives you easy control over lights, cameras, thermostats, door locks alarm systems and more. Plus you easily can add intelligence to almost anything electronic in your home, and VeraLite can control them too. All the smart home benefits you've been looking for are right here in this easy, inexpensive add-on to your home network.



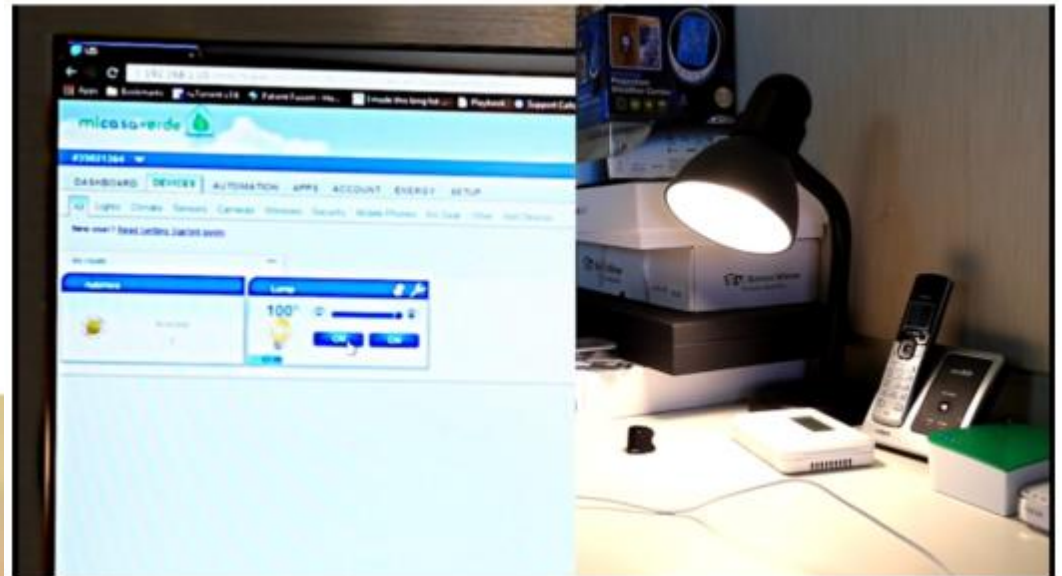
**AN AMAZING AMOUNT OF SMART
TECHNOLOGY THAT FITS IN THE
PALM OF YOUR HAND.**

VeraLite gives you easy control over
lights, cameras, thermostats, door locks
alarm systems and more.

ONLY \$179.95



TFL Environmental Control Lab



Begin with the End in Mind!



- 1) What do you want to control— Computer, game, TV, lights, appliances, chair, door, faucets, smartphone?
- What can be automated?

2) Where would you mount the ECU—
wheelchair, table, desk?

3) How will you access/control the ECU—
direct, external switch(es), scanning, voice?

4) Are there any cognitive issues affecting number of choices, memory, etc.?

5) Will physical and cognitive abilities be changing over time?

What is a Smart Device?

- A smart device is an electronic device, generally connected to other devices or networks via different wireless protocols such as Bluetooth, NFC, WiFi, 3G, etc., that can operate to some extent interactively and autonomously.
- Some examples of smart devices include but are not limited to the following.
 - Smartphones
 - Smartwatches
 - Home Appliances?
 - Lights?

How can a Smart Device Help?

- Personal Assistant
 - A smart device acting as a personal assistant can keep track of the numerous tasks in daily living and remind you when something needs to be done.
- Access
 - A smart device can give access to other devices that may not be able to be manually controlled. For example someone with a mobility disability could use a smart device to turn on the lights, adjust the thermostat, or unlock a door.
- Location of self/objects
 - A smart device can help someone who is lost find their way home, track the movements of a loved one, or even locate lost keys, wallets, or other devices.

Eli's Situation

- I want to control my lights, telephone, and all of my audio and video equipment -- basically, I need it all. As I move around the classroom, it would be ideal if I could do all of that from my wheelchair.

Eli's Situation

Applied Methodology:

1. Lights, Telephone, Audio/Video Equipment
2. Wheelchair mounting
3. Voice Control
4. No cognitive impairments
5. Stable abilities over time

Eli's Situation

AT Solutions

- Pilot Pro
The Pilot Pro offers advanced voice controlled ECU functionality.
- X-10 modules
Various X-10 modules control lighting and appliances.
- Sero!™ telephone
Easily-controlled compatible telephone.
- Latitude™ ARM and triangle plate
Use the Latitude ARM and small triangular mounting plate for a steady position and easy adjustments.

Pilot Pro

Combining the best in Infrared and X10 remote controls, the Pilot Pro brings the freedom of natural speech to appliances throughout the home. With the Pilot Pro, spoken commands are used for remote control of numerous devices in multiple environments. Control a television, telephone, lights, door systems, and more with simple, intuitive commands like, "TV... On" or "Channel... Up".

Pilot Pro is portable and programmable, meeting the needs of users at home, in the office, or within a healthcare facility. And its accessible - with switch scanning and 96 unique commands, arranged to suit the specific needs of your environment. Contact an AbleNet ECU dealer to see how Pilot Pro can deliver powerful access at the sound of your voice.

- **Key Features:**
- 96 different words available in menus
- RF and IR interfaces for all devices and X-10 controls
- Programmable, adjustable menus with support for macros
- Designed for complex home automation systems
- Voice training with no computer required
- Convenient graphic display
- Auditory and Visual feedback
- "Direct Learning" infrared for easy programming with your existing remotes
- Supports external microphones
- Latest generation speech recognition technology
- Internal microphone



X-10 modules

X10 communicates between transmitters and receivers by sending and receiving signals over the existing electrical wiring in your home. The X10 Transceiver then sends commands to the X10 modules. A separate X10 module is required for each appliance you want to control.

For example: This is a on/off control of 3 prong appliances for up to 15 amps.



Sero Telephone

- The Possum Sero! provides, for the first time, a loud speaking, remote control telephone and answering machine with AAC communication aid functions. The Sero! can be operated via the majority of Possum, Infrared enabled home controllers and Communication Aids.
- **Communication (AAC)**
50 User-recordable phrases (each 60 seconds long) allow people with partial or no voice to communicate crucial messages over the telephone.
- **SSI© (Secure Spoken Identity)***
Secure Spoken Identity, using caller ID services, will speak the name of the person calling (if the caller's details are in the phone book). Unsolicited calls can be diverted straight to the answering machine.
- **Emergency Dialing Features Include:**
 - Remote activation of the emergency dial number via the Possum Jive!, Primo!, or any other appropriate infrared device.
 - Automatic Help Call function which dials up to 8 contacts until a response is registered.
- **Key Features**
 - Hands free calling
 - Remote Control via IR
 - Emergency Dialing
 - Speakerphone
 - Answering Machine
 - Recordable Memos
 - Communication Aid Feature
 - SSI© (Secure Spoken Identity) - Voice announcing caller ID*





Latitude™ Customizable Mounting System

- The Latitude™ Customizable Mounting System provides an ideal balance of strength, durability, and flexibility. The Latitude™ ARM makes it easy to handle just about any mounting challenge. From a standardized base interface, to quick-release levers, to a universal plate connector, the Latitude™ ARM gives you all the options of a mounting system that costs much more.
- **Key Features**
- **Plate Connector:** Allows for quick change of products
- **3D Joints:** All joints allow 360° of rotation on any axis (any direction) Unique design provides superior clamping strength Joints can be moved to any position along a tube
- **Quick Release Handles (Levers):** Allows for easy positioning or adjustment without tools Pull and rotate handle to desired position after adjustment
- **Standardized Base Interface:** Allows for quick transfers between different base types and locations (Ex. Wheelchair to Bed Rail)





Meet Katie

- Katie is 14 years old and has been a power wheelchair user her whole life. She has her parents and caregivers that alternate to help get her ready for the day and ensure she is fed.
- Katie she has expressed a desire to be able to do things around the house and in the classroom independently. She wishes she could do things like turn on and off lights, adjust the thermostat, control the TV, read a book and answer the door without having to ask for help.
- How can smart devices help Katie be more independent?

Solutions for Katie!

amazon echo

Always ready, connected, and fast. Just ask.



- Speech-controlled speaker system
- Voice recognition - further distances
- All functions are server side
- Compatible with many EC Brands
- \$179.99

Solutions for Katie



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

Meet Ali

- Ali is 16 years old and living with his Mother. He takes his medications when his Mom is there to check on him, and asks if he took it, but his Mom isn't always going to be available to ensure he is complying with his medication. How can we ensure that Ali takes his medication in a timely manner without relying on his Mom?

Solutions for Ali

- Reminder Rosie
 - A programmable alarm clock
 - Create custom reminders
 - Record your own message
- NFC Tags
 - Don't require power
 - Small and can be placed anywhere
 - Inexpensive
- If This Then That
 - Program recipes so when one thing happens, another task is automatically triggered.



Meet Maliki

- Maliki has a habit of emptying his pockets in random areas around the house. Later when he needs something, like his wallet, he will just grab it from the pile only to leave it somewhere else when he is done with it. Sometimes., he will forget where he last left it and can't find it for some time.
- There have also been occasions where Maliki has left his wallet on the counter at different stores. So far he has been lucky and has always been able to retrieve it from where he left it.
- How can we make sure Maliki doesn't leave his wallet behind anymore? Even better, how can we make it so Maliki always knows exactly where his wallet is when he needs it?

Solution for Maliki

- Walli
 - Connects via Bluetooth to Android or IOS phone
 - Alerts your phone when you are leaving your wallet behind
 - Even monitors card slots to tell if you've left a credit card or ID behind.
 - Double tap the wallet to find your phone
 - <http://www.mywalli.com/>
- Pixie Chips
 - 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/>

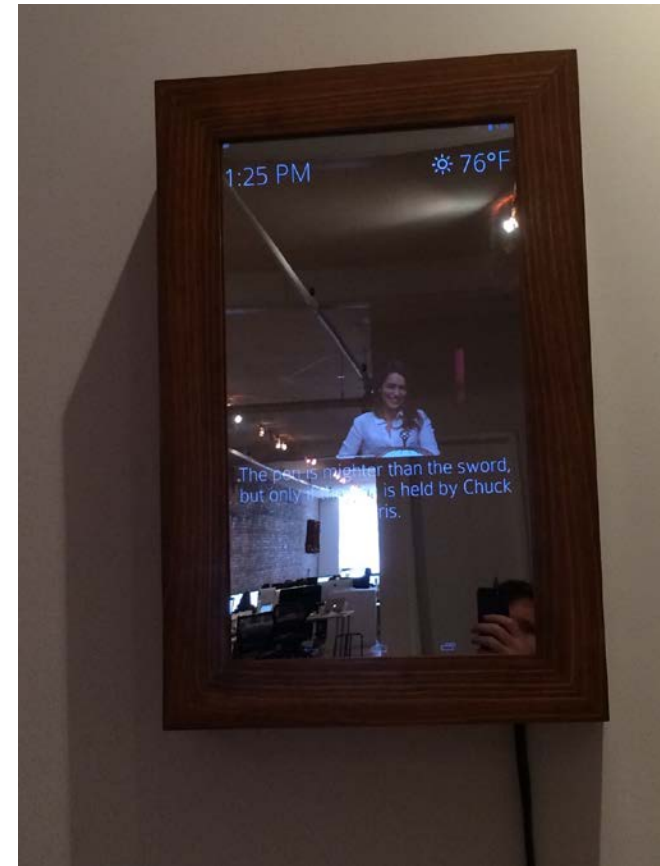


Meet Jasmine

- Jasmine loves Cooking meals for her parents and siblings, cleaning up after, taking care of the household pets, etc. She is always busy doing something around the house.
- Unfortunately, Jasmine will often leave the refrigerator door open, or forget to turn off the oven after she is done cooking.
- How can smart devices help Jasmine remember the status of her appliances after she has stepped away from them?

Solutions for Jasmine

- Built in appliance alerts and alarms
 - Many appliances now have alarms that will sound letting the user know that a door is left open or an oven has finished preheating or cooking.
- Magic Mirror
 - For users that have a hearing disability, some sort of visual cue is required to alert the user to the status of their appliances.
 - A Magic Mirror is a smart device that can update to show pertinent information to the user.
 - A simple alert can be created to make the mirror flash red with a short message detailing what needs attention.
 - The appliances need to be smart devices or otherwise connected to the magic mirror to work.



Exploring Assistive Technology

Strategies & Solutions

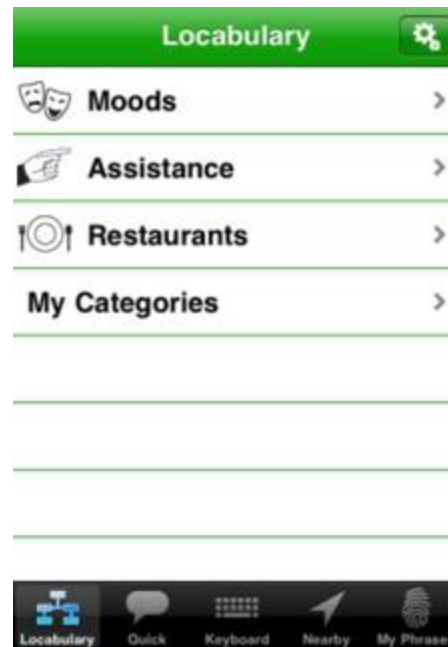
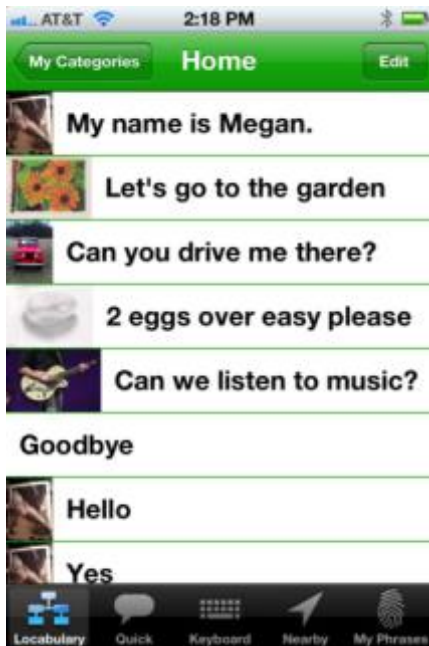
Future

- Evening out the playing field
- The Future is Contextual
 - GPS apps
 - Ads on Internet
 - Smart watches
 - Social Media
 - Proust.com



- *Martha Rust*

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

iBeacon Technology

- Estimote Beacons
 - Wireless sensors that attached to any location or object
 - Broadcasts radio signals to smartphone



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



Switch Access



Access - Joystick





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

ASL 138 Extremity Control Joystick



100 Series

Specialty Products & Adaptors

Electronic Switches

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



200 Series

Specialty Products & Adaptors

Electronic Switches

ASL 215 Round Proximity Sensor 3 Pin



200 Series

Specialty Products & Adaptors

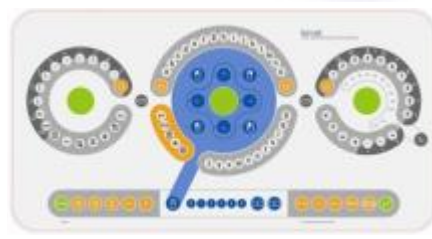
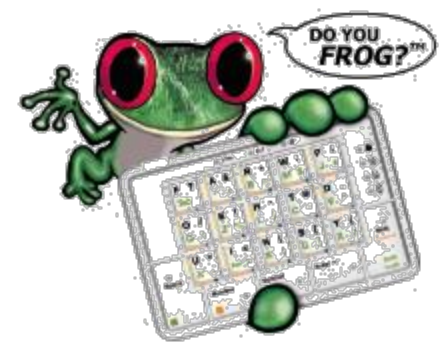
Eyegaze Edge

- Eyegaze System
- Control computer and tablet using your eye
- Environmental Controls
- Communication





Computer Access



Ten days with Google Glass

By Will Shanklin
December 23, 2013

14 Comments
7 Pictures



Gizmag shares some more thoughts about being part of the Google Glass Explorer program

[Image Gallery](#) (7 images)

Here at Gizmag, we're very interested in the present and future of wearable tech. So we thought it was fitting to sign up for the Google Glass Explorer program, to give you a better idea of what Sergey Brin and company have brewing up in Mountain View. Though we aren't quite ready to dish up a proper Google Glass review, we want to share some more thoughts about our first ten days with Glass.

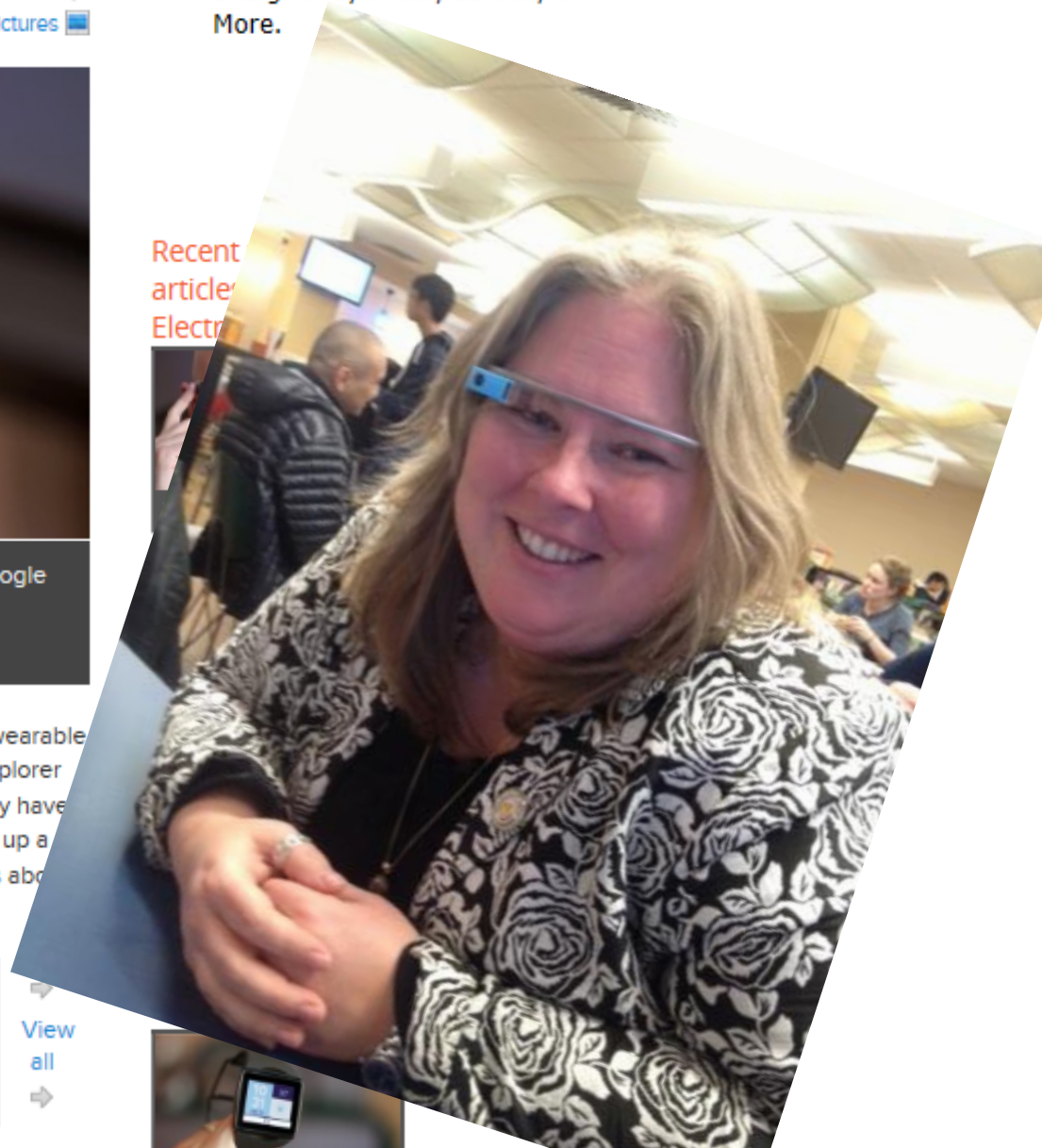


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Designer Eyewear, Lenses, &
More.

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Are you using what is Built In?





**Our Question to You:
What have You Learned today?**

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Disclaimer

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And Maria Kelley!



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