Assistive Technology for Individuals with Blindness and Vision Impairment

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They use the training they have received through the VA and community agencies as a stepping stone to support their learning, problem solve and build life-lines for help
Overview

- What is assistive technology and why is it important
- Brief history
- Current Trends in technology for the blind and visually impaired: proprietary versus conventional
- What exciting technology awaits us and what’s next in exciting new service delivery options
What is Assistive Technology

- Assistive technology is an umbrella term that includes assistive, adaptive, and rehabilitative devices for people with disabilities and also includes the process used in selecting, locating, and using them. Assistive technology promotes greater independence by enabling people to perform tasks that they were formerly unable to accomplish, or had great difficulty accomplishing, by providing enhancements to, or changing methods of interacting with, the technology needed to accomplish such tasks.

- Wikipedia
AT – brief history

- Bulky
- Expensive ($10,000)
- Unknown to most end users
- Proprietary
Assistive Technology

Why is it important?

Take a brief journey through the “eyes” of the visually impaired

Parle Vu France?

- https://www.youtube.com/watch?v=JOB80p0otks
Current Technologies

Proprietary
• Mostly more expensive
• Unfamiliar to conventional users
• Tech support
• Compatibility issues

Conventional
• Ready to use out of the box
• General familiarity
• Still may require technical assistance
VIDEO MAGNIFIERS

- Reading, tasks such as putting on make-up, fixing household items, on-the go.
COMPUTERS

https://www.youtube.com/watch?v=IlLaUx7BJ4r0&list=PL-u_LvTBjntHRq5h4NEp2SGrjChjnAoD

Added software, hardware to existing computer systems
Current Technologies

Proprietary

OTHER

• Sonic cane
• Mini-Guide
• Victor Reader Stream
• Haptic shoes
• Navigation Bracelet
iOS Devices
Built-in accessibility /portability
Apps – have to be assessed for access

Current Technology
Conventional
Current Technologies

Conventional

iOS Devices

• Portable devices (iPhone/iPad/ mini/iPod) in combination with apps that can take the place of multiple devices even being used as portable video magnifiers but limited

• Other conventional products still require tertiary software for full access- that is changing every day

• Fully accessible out of the box

• Don’t have to have something “different”

• Less expensive overall
## Apps for iOS

<table>
<thead>
<tr>
<th>Task</th>
<th>App for that</th>
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</thead>
<tbody>
<tr>
<td>Money identification</td>
<td>LookTel</td>
</tr>
<tr>
<td>GPS</td>
<td>Around Me</td>
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<tr>
<td>Dictation</td>
<td>Built in/Dragon App</td>
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<tr>
<td>Health management</td>
<td>Glucose Buddy</td>
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<tr>
<td>OCR</td>
<td>Text Grabber</td>
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<tr>
<td>Book reader</td>
<td>BARD app</td>
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<tr>
<td>Enhanced magnification</td>
<td>Eye Sight</td>
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<tr>
<td>News</td>
<td>NFB newsline</td>
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<tr>
<td>Barcode Scanner</td>
<td>Bakado</td>
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<tr>
<td>Assistive Technology</td>
<td>Traditional</td>
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<td>---------------------------------------</td>
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<tr>
<td>GPS</td>
<td>Trekker Breeze - $929</td>
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<tr>
<td>DAISY Reader</td>
<td>Victor Stream - $349</td>
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<tr>
<td>Handheld Magnifier</td>
<td>RUBY - $545</td>
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<tr>
<td>Barcode Scanner</td>
<td>i.d.Mate Summit - $1299</td>
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<tr>
<td>Money Reader</td>
<td>Note Teller - $300</td>
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<tr>
<td>CCTV</td>
<td>Merlin 19” - $2,995</td>
</tr>
<tr>
<td>Computer w/ Screen Reader</td>
<td>PC/JAWS - $1,845</td>
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<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>$8,262</strong></td>
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iOS Devices
Other applications

- External Monitor/TV
- Stand
- Keyboard
- Apple TV/internet

Current Technologies
Conventional
Taking Conventional technology with built in accessibility and connecting it for multiple applications
An Overview of iOS 8’s New Accessibility Features

http://www.macstories.net/stories/an-overview-of-ios-8s-new-accessibility-features/
Other Apple Products

iMac/ Mac Book Pro
Windows 8

- Built in accessibility but limited in applications: tablets, computers, touchscreen, mobile
- Magnifier and speech still not as robust as added proprietary
- Not as many people using these so training can be problematic
- Getting better every time: can support more job-oriented applications (MS Office) and generally overall more speed and power/memory depending on the device
## Considerations

### *Assessment*

<table>
<thead>
<tr>
<th>Person</th>
<th>Technology</th>
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<tbody>
<tr>
<td>Vision</td>
<td>Screen size</td>
</tr>
<tr>
<td>Functionality</td>
<td>Accessibility</td>
</tr>
<tr>
<td>Co-morbidities</td>
<td>Ease of use</td>
</tr>
<tr>
<td>Goals</td>
<td>Technical support</td>
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<tr>
<td>Support</td>
<td>Input</td>
</tr>
<tr>
<td>Motivation</td>
<td>Updates</td>
</tr>
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What's next? Or already here but has some kinks to work out

Emerging Technology
• VA has been using tele-health for various applications (Clinical Video Tele-health)
• Blind Rehabilitation has been working very hard to implement
• Transportation is problematic for blind and visually-impaired veteran
• How to deliver more services in the home/closer areas if possible

VETERAN
• VA ISSUED COMPUTER
• REHABILITATION
• ASSESSMENT
• COORDINATED CARE

VA Tele-Health
The new frontier and what do we do with it
Home CVT Possibilities

- * case management
- * real time information about home environment
- * replacement items
- * computer support
- * computer training
- * support groups
- * intakes/discharges
Technology

“Everyday you don’t learn something about technology you are exponentially behind” – One of Dana’s old bosses circa 1998
Questions

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