Co-Sponsors

- VCU ASD Career Links – NIDRR

  Vocational Rehabilitation Services Models for Individuals with Autism Spectrum Disorders
  – www.vcu-autism.org

- VCU-ACE – VA Dept. of Education

  VCU Autism Center for Excellence
  – www.vcuautismcenter.org

Smart Technology

Practical Applications To Support People with Autism

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Typical cognitive-behavioral problems

- Memory for names/faces, locales
- Remembering to do things (medications, appointments)
- Communication issues
- Task Sequencing
- Multi-tasking
- Dealing with Distractions
- Adapting to transitions and changes in routines
- Dealing with frustration

Low-Tech Cognitive Aids

Low-Tech Cognitive Aids
Assistive Technology

- People with cognitive-behavioral challenges least likely group to use AT

- People with autism may prefer computer interaction to human cueing

- "Small" AT strategies can be life-changers

- Technology is changing rapidly

- Consumer-based products are especially robust

Plain Old Cell Phone

- Carry it everywhere
- Speed Dial for Frequent Calls
- Text-Messaging
- Calendar Reminders
- Contact information
- Camera
- Varied features by phone

Personal Digital Assistants

Onboard tools (all PDAs)

Calendar with reminder alarm prompts
To Do List
Audio Recorder
Notes to Self program
Contacts/Address List
Alarm Clock
Photo Album
Video-Playback
Tap-learning screen

What can a PDA Help With?

Scheduling/Reminders
Time Management
Task Sequencing
Way-Finding
Behavioral Cues

And more….

Ipod Touch 4

- Front-rear facing still and video camera
- Face Time video-calls
- Built-in microphone
- Voice-over accessibility
- Background-running program capability
- Application Folders
- Games interactivity

Apple Ipad 2

- Large icons for dexterity-challenged
- Louder speaker for augmentative communication
- Larger screen

Accessibility

- Reads any text onscreen
- Zooms by touch
- White-on-Black
- Mono Audio
- All toggled by home button (3x click)

Android Tablets

•Motorola Xoom
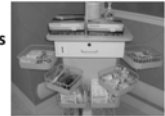•Samsung Galaxy

Time Management

Before

After

Task-Sequencing Powerpoint

- Take photos of sequence
- Create powerpoint with typed prompts
- Save as movie (Office 2010)
- Export to pda

Loading Carts
Be sure to include the
Listed items in
each cart

Task-Sequencing Video

- Preview before task
- Play-pause during task
- Review after task

Good morning Len! Let's make coffee.

Wayfinding video

The Safe Bathroom

Behavioral Prompts

- 19 year old with Autism

- Medical Supply aide at hospital

- What to do when people bother you.

Behavioral Prompts

- 37-year old woman

- Group home

- Autism and Severe OCD

- Compulsively calls mom for advice up to 6 hours/day

Video for PDAs without cameras

- Script task and rehearse

- Use Flip Cam and bright light/close-up

- Edit using Flip Share

- Save in PDA readable format

- Save to Desktop

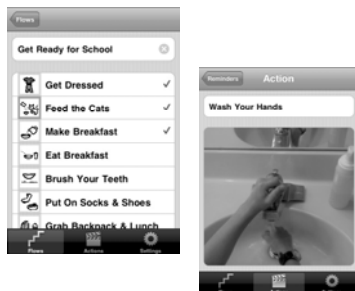- Synch with PDA

Apps that Help

- Step-by-step task lists

- Person-locator

- Seizure tracker

- Sleep tracker

- Skype with wi-fi

- Cognitive challenge games

- Behavior trackers/cues

- Augmentative Communication
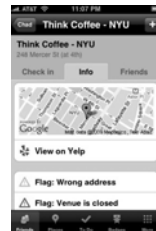
Four-Square

Step-by-Step Task Lists

- Visules ($4.99)
- Home Routine
- ($4.99)
- Notes
- (on Touch)

Person Locators

- Instamapper (free)

- Four Square (free)

- Most smartphones

- Best with unlimited data plans

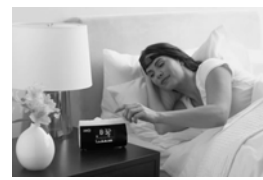## Seizure Tracker

EpDetect

www.epdetect.com
Windows mobile

www.epilepsy.com
For Iphone or pc

Sleep Hygiene

- Zeo ($149) with pc-based sleep coach

- Sleep Cycle ($.99)

Cellphone on your PDA

- Skype (free)

- Line 2 (9.95/month)

- Fring (free)

- Facetime (touch to touch)

Behavioral Apps

- iCounselor
- OCD
- Anxiety
- Fear
- Depression
- (each is $.99)

Behavior Trackers

- Behavior Tracker Pro

- Skill Tracker Pro

- Each $29.99 on App Store

Augmentative Communication

- Confer with SLP to determine the right app for your child

- Confer with OT for device adaptations

- Sometimes an AAC hardware will work better

- Consider school legacy tools

Hearing Impaired

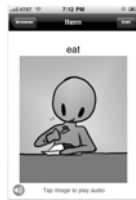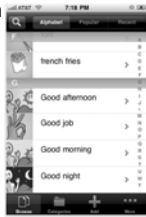- Power of texting
- Instant messaging

Proloquo2go

- On Apple App Store
- $190
- www.proloquo2go.com

Voice4You

www.voice4uaac.com
Iphone, ipad
$29.95

french fries

Good afternoon

Good job

Good morning

Good night

eat

Speak it!

$1.99
On ITunes

Dragon Dictate

Recording...

DONE

Hi John, call me when you get this e-mail. I'm running a little bit late.

Send to Mail

Send to Txt Msg

Send to Clipboard

Cancel
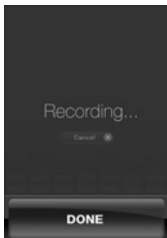
Smartphones

Palm Pre   Apple iphone   Blackberry Curve   HTC Droid Incredible

Interface issues

- Tinny, tiny speakers

- Getting lost in so many onscreen options

- Where do you put the thing?

- The device itself as a distractor

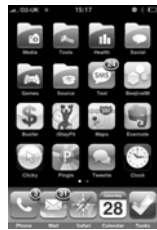- How do I protect the thing?

Speaker solutions

iMainGo $15 (Walmart)

Cyanics $23 (Amazon)

Dumbing down the screen

- Separate apps into school, home and play folders

- Separate by swipe screen

- Use different devices for different settings

Carrying PDA

- Pocket
- Belt clip
- Armband
- Desktop
- Lanyard

Cases for ipod touch

Otterbox.com
Defender
$29.95

Colortunes – Walmart
$9.95

For Less than $100 US

People who only need reminders

People with more severe impairments
who do not have caregivers to help
program and maintain more complex tools

Medication Reminders

- Pill Dispenser
- Alarm
- Pulse rate
- Blood pressure

- www.epill.com

Audio Recorders

- Digitally record reminder alarms

- Tapes can playback at varying speeds

- Good for note-taking

- Generally easy to use

- Various manufacturers

www.ohdontforget.com

- Free web-based text message reminder system for cell phones

- No repeated reminders

- Text message charge from provider

- Can be programmed in anywhere the web is available

Google Calendar > Cell phone

- Text message a calendar reminder

- Can be used on any cell phone that allows texting

Service Provider's Role

- Assess client needs, tasks and environment
- Learn the devices & apps
- Determine best fit for client
- Train client and caregiver
- Include in daily organization routine
- Follow-up consults
- Gradually diminish supports

Holistic Perspective

- Strategies for thinking, memory

- Environmental adaptations

- Task simplification, supports
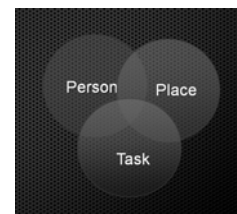
Like any other A.T., consider…

- Does client have potential to use a device?
  - Functional vision
  - Hearing
  - Dexterity
  - Ability to respond to a prompt and perform prompted task
  - Frustration tolerance
  - Awareness of need/Interest in using device

Training
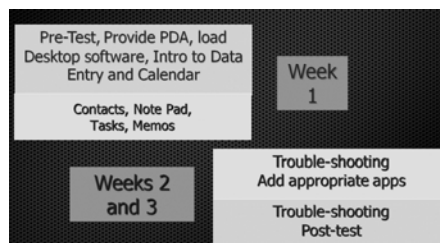
Post-Assessment

- How has A.T. reduced need for supervision?

- What new goals might be pursued?

- What other technology may help?

- If it didn't work, why didn't it?

References

Gentry, T. (2010). Gentry, L, Wallace, J, Kvarfordt, C., & Lynch, K.B. (2010). PDAs as cognitive aids for adolescents with autism: Results of a community-based trial. Journal of Vocational Rehabilitation. 32: 101-108.

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Thank you!

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