

# Technology and Cognitive Support:

Strategies and tools for  
Memory, Scheduling and  
Time Management

Presenter:  
Gayl Bowser, [gaylbowser@aol.com](mailto:gaylbowser@aol.com)

# Technology and Cognitive Support:

*My thanks to Lynn Gitlow for our joint collaboration on the original, full day version of this presentation.*

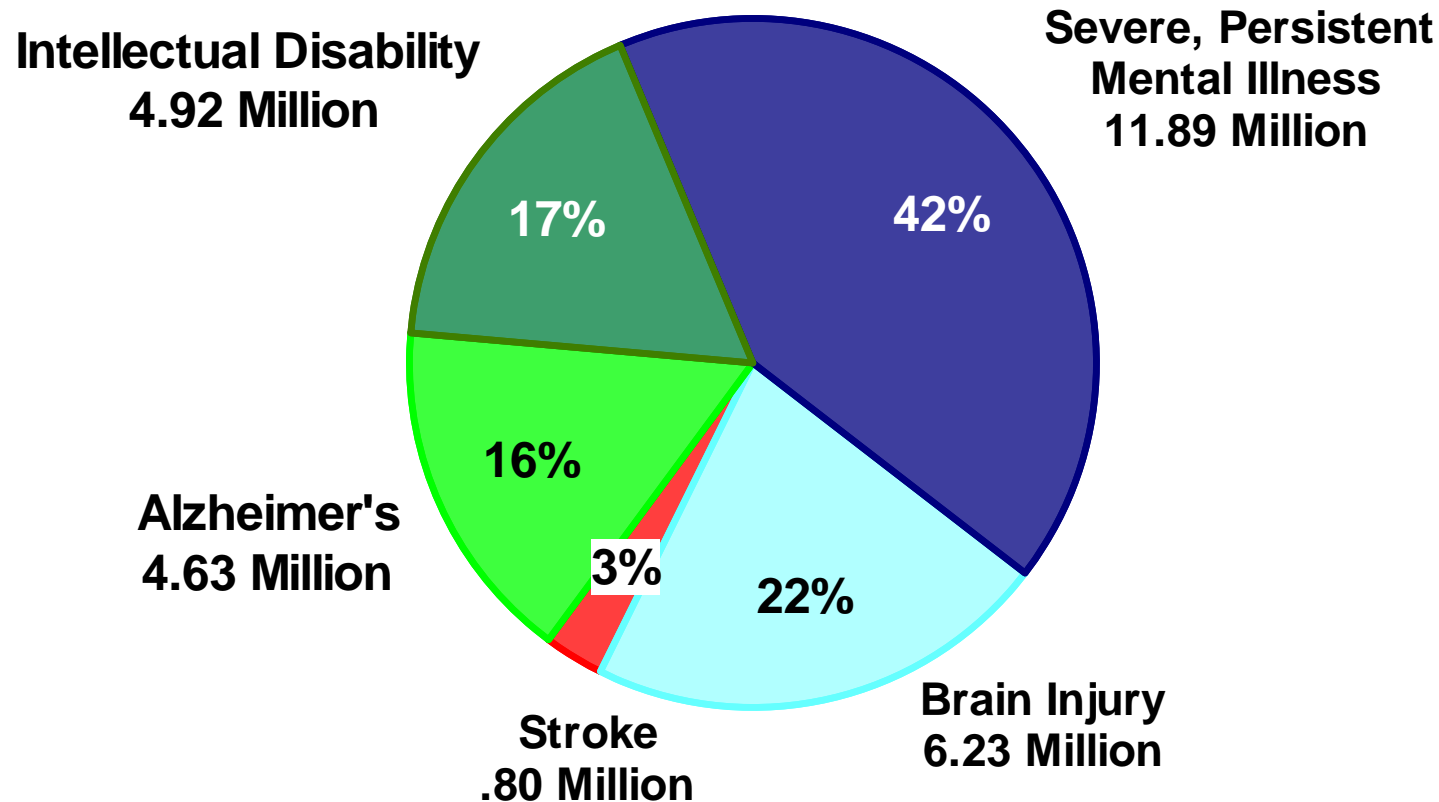
Lynn Gitlow: [lgitlow@ithaca.edu](mailto:lgitlow@ithaca.edu)

# Participants will learn about:

After this session you will be able to:

- Describe the prevalence of cognitive disabilities in the US
- List three ways in which research indicates that technology can help people with memory difficulties to function more independently.
- Identify at least two commonly available tools to support memory, scheduling and /or time management
- Identify at least two specialized tools that are designed to support memory, scheduling and /or time management.

## PREVALENCE OF COGNITIVE DISABILITY IN THE U.S., 2012

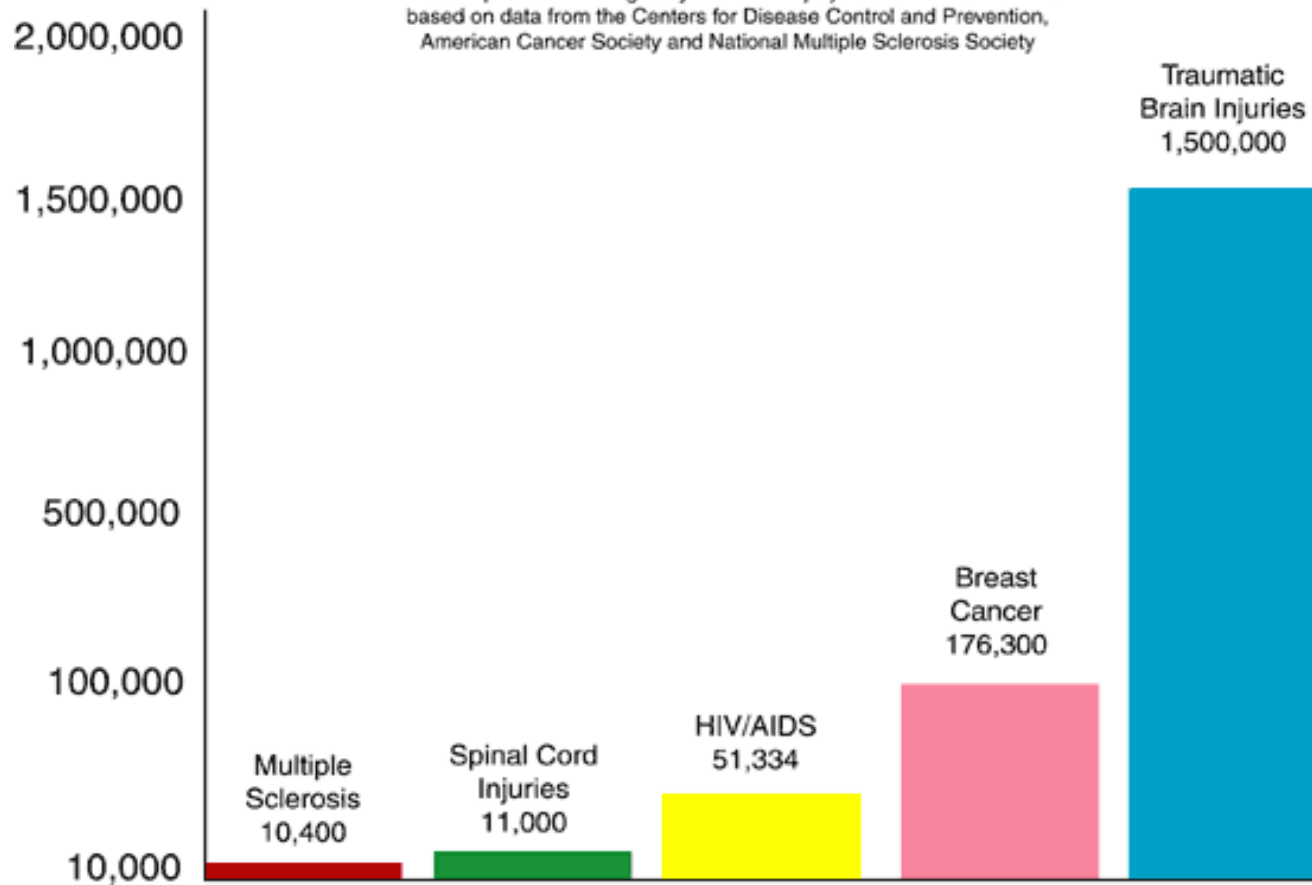


**Total: 28.48 Million Persons**

*Source:* D. Braddock. (2012). Boulder, CO: University of Colorado, Coleman Institute for Cognitive Disabilities.

## Comparison of Annual Incidence

Data compiled and arranged by the Brain Injury Association of America based on data from the Centers for Disease Control and Prevention, American Cancer Society and National Multiple Sclerosis Society



# So what are we talking about ?

[What are cognitive disabilities?](#)

<http://webaim.org/articles/cognitive>

WebAIM is an initiative of:  
Center for Persons with Disabilities  
at

**UtahState**  
UNIVERSITY

# Cognitive Disabilities

- Are functional and psychosocial impairments
- The most prevalent cognitive consequences: memory, organization, attention, concentration, initiation, and task completion and processing issues related to neurological disorders

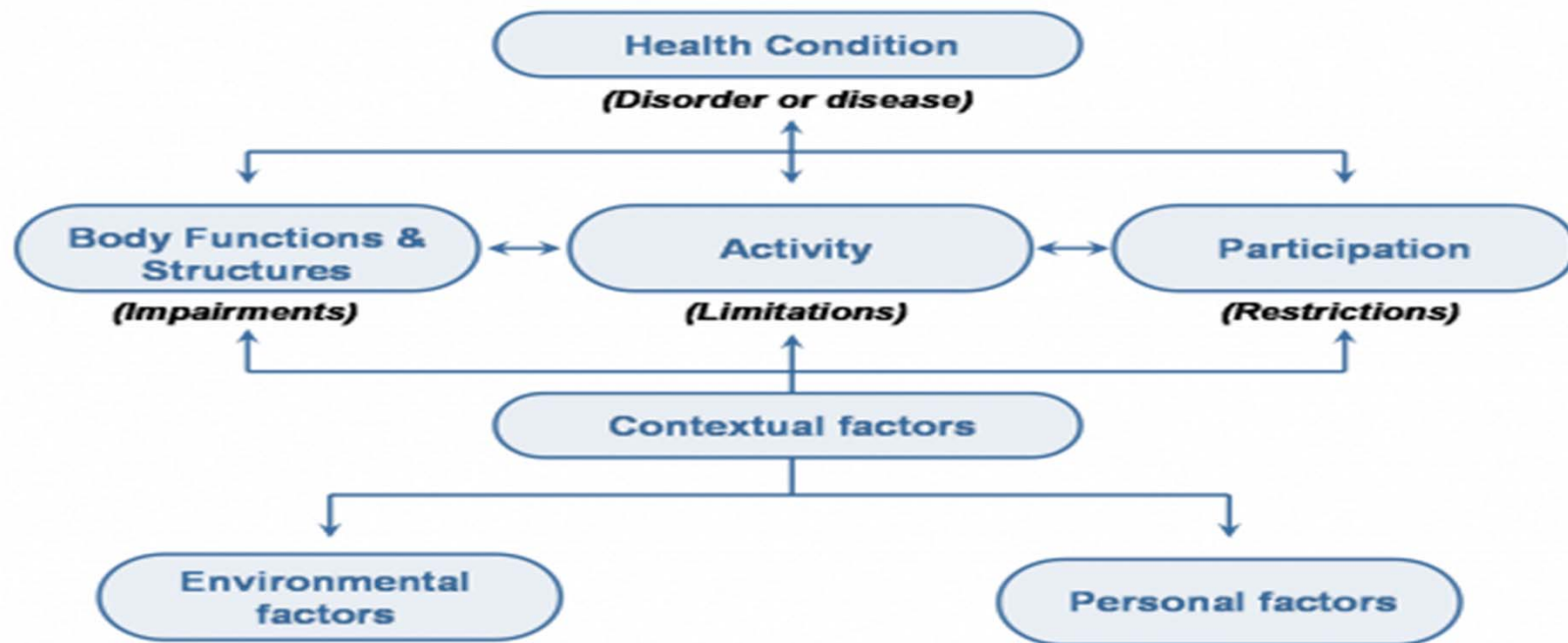
# Conceptual Practice Models

- International Classification of Function (ICF) – World Health Organization
- Matching Persons with Technology (MPT) – Dr. Marcia Scherer
- Student Environment Tasks and Tools (SETT)– Dr Joy Zabala



# International Classification of Function (ICF)

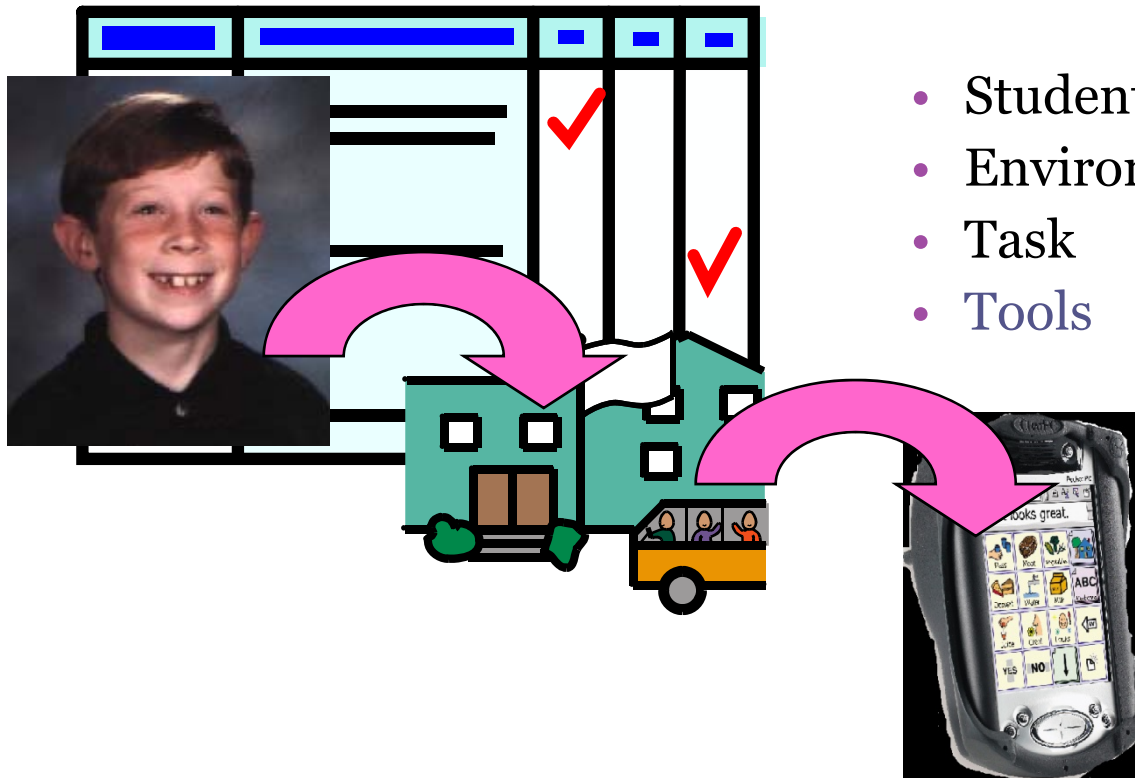
## ICF - body functions -Chapter 1- mental fx



# Matching Persons with Technology (MPT)

- The characteristics, needs and preferences of each individual user
- The characteristics of the milieu, i.e. the physical and attitudinal environment in which the AT device will be used
- The characteristics of the AT devices

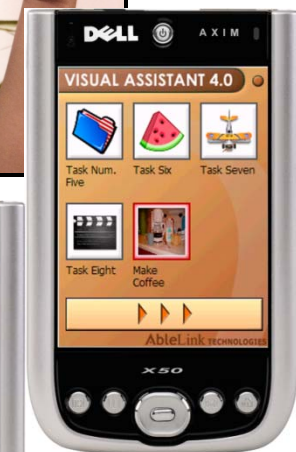
# The SETT Framework



# What is Cognitive Support Technology?

*...Technology for cognitive support refers to the assistive aspects of technology that enhance the mental capabilities (and avoid the limitations) of users...*

*Wogalter & Mayhorn*



# In Medical Services: Cognitive Prosthetics



Assistive technologies that helps a person with cognitive deficits function more independently in certain tasks. It is a system that helps the individual in ways that are specific to that person's needs.

Retrieved on -line at <http://www.brain-rehab.com/definecp.htm>

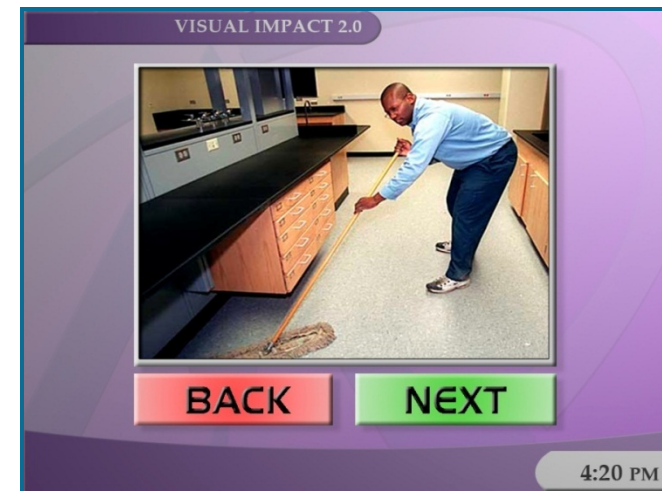
# CST is Research-based Intervention.

## Specific Studies

- Money management
- Decisions about transition
- Using an ATM
- Making decisions within a task sequence
- Learn new computer skills
- Express job preferences
- Use the Internet more independently
- Choose foods for menu planning
- Follow a schedule

# Results of the Research

- Fewer external prompts
- Fewer errors
- More tasks successfully completed
- More complex tasks



# Cognitive Support Technology

can decrease...

- Need for prompts
- Number of errors
- Need for support
- Cost of care
- Caregiver fatigue

can increase...

- Independence
- Accuracy of Task-completion
- Self-management
- Self-instruction and monitoring
- Self Determination
- Autonomy
- Social Acceptance

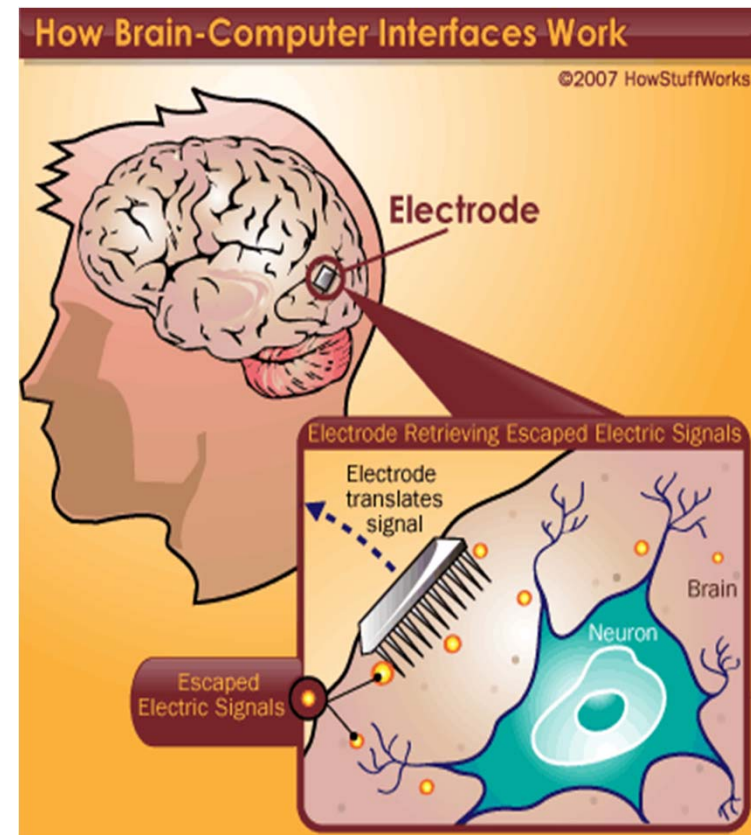


# Underlying Principles

- Task focus
- Only as special as necessary\*
- The simplest tool to overcome the barrier
- Plan for supports to use the tools



# Range of Technologies



# Cognitive Support Technology



- Memory
- Scheduling
- Time Management



# Memory Supports:

*Maintaining short-term and/or long-term memory*

- Memory refers to the processes that are used to
- acquire,
  - store,
  - retain and
  - later retrieve information.

## Memory Examples:

- Low-tech – self-made picture chart i.e phone directory assistance, designated pill box, erasable planner
- Moderate-tech – alarms i.e. vibrating reminder, on/of timers,.
- High-tech – cell phones i.e. alarms, ‘Jitterbug’

Let's Brainstorm some  
no/low to high tech options

# VideoBrix™ Personal Video Communicator



- VideoBrix is quick and easy to use. Within moments, record a single message with the device's onboard camera and microphone. The screen will help show which button to press to play (or record) a message.

# Medication Reminders



# Timer Devices as Memory Support

- Powerlink: adapt small appliances such as frying pans, toaster ovens and electric kettles to automatically switch the power off after a set time.



- Stove power controller: equipped to alarm and shut off a stove after 15, 30 or 60 minute intervals.



## Stove Guard.



This device is a motion detector and can tell if there is movement within twelve feet of your cooktop. Figure the amount of time you are usually away from the stove during a normal meal prep and set the detector for more than that time. Then when the Stove Guard doesn't note motion for more than the span of time, the stove is shut off.

# More Memory Devices

- Automatic Faucet Controls: attach to faucet, activates with hand pressure, stops automatically. Or motion activated

<http://shop.alzstore.com/automatic-faucet-control-p34.aspx>



- Remote Locator: attach to commonly misplaced items, push a button on the remote to identify where item is.

<http://www.keyringer.com/>

<http://www.sticknfind.com/>



# Apps



## **Forgetful**      **Free (\$2.99 upgrade)**

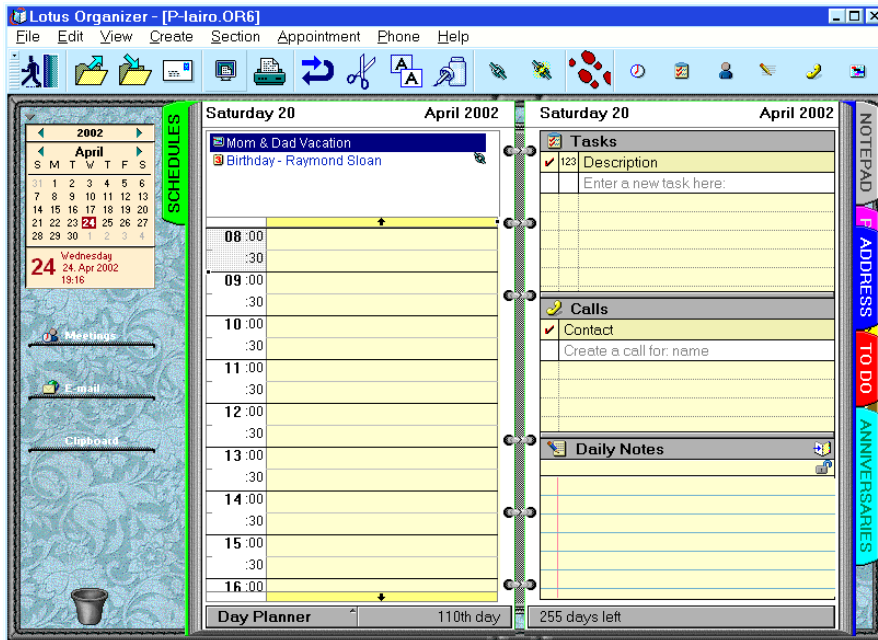
Set the date and time you want the reminder to show up - as both text and video. When the reminder comes, hear a chime that continues until you touch it and the video automatically plays.



## **TextMinder**      **\$1.99**

Adults and kids can create one-time or recurring text messages. Set the date and time so texts arrives exactly when needed. Setting up a repeating text message for taking medication, catching the school bus routes, or bedtime, can help kids follow routines independently.

# Scheduling



# NeverMiss Timer

## ■ Never-Miss Timer

<http://www.bindependent.com/cgi-bin/shopper.cgi?preadd=action&key=gct5043>



## ■ Clocky

■ <http://www.youtube.com/watch?v=23uiDQ88EP8>



# Smartphones as Memory Aides

## *AT Accessibility Checklist Brochure*

### **ACCESSIBILITY CHECKLIST** for people with cognitive disabilities



*What to look for when you're shopping for a  
cell phone or personal digital assistant (PDA)*



# AbleLink Schedule Assistant

- Multimedia scheduling application for individuals with significant literacy challenges
- Any number of appointments or events can be entered into the system by recording an audio message and designating the day(↵), and time for the message to activate



# Time Management





## Apps: Teaching vs Support



### **Airport Mania: First Flight \$0.99**

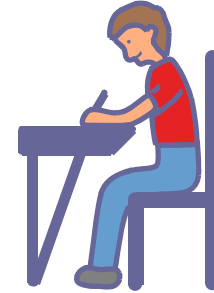
Airport Mania teaches time management ideas in a unique game format. Take on the role of air traffic controller. Choose which runway planes land on and which terminals they pull into.



### **Time Timer \$2.99**

How much longer? This timer features red disks that get smaller as time ticks down – a great visual aid for people who get impatient. Knowing how long things take can help them exercise self-control.

# Thinking about Memory

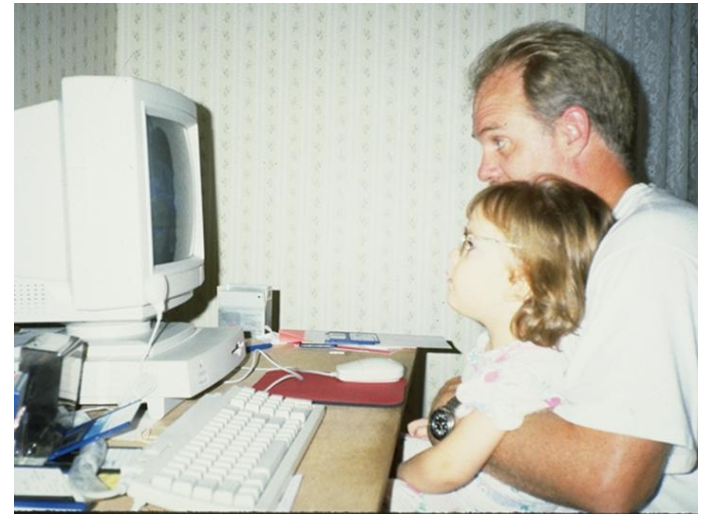


## Guiding Questions

- What is the functional routine?
- What does the person need to be able to do that is difficult or impossible to do independently at this time?
- Special Needs (related to area of concern)
- Current Abilities (related to area of concern)

*Adapted from:*  
*[www.JoyZabala.com](http://www.JoyZabala.com)*

With someone in mind...



- What supports are in place now
- People dependent supports (artificial supports)
- Low tech supports (independent supports) with/without prompting