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PACER CENTER
CHAMPIONS FOR CHILDREN WITH DISABILITIES



All About Digital Media!

Presented by:

Tara Bakken and Meghan Kunz
of the PACER Simon Technology Center
Thursday, March 3 2011

Webinar Information

This webinar will be archived on PACER.org/pacerwebinars and will contain links to resource materials relevant to the session

*Archived webinars will be made available on the PACER website
1 - 2 weeks following the date of the original training

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Today's Session

- Intro to PACER
- Brief Intro to:
 - Digital Books
 - AIM
 - Formats
 - Resources for Finding Digital Books
 - Format and Device Compatibility
- Ebook (electronic text) Formats & Tools
- Audio Book Formats & Tools
- Digital Braille Formats & Tools (in brief)
- Student Consideration



PACER Center

- Not-for-profit organization
- Serving families of children with disabilities
- Primarily staffed by parents of children with disabilities
- Over 30 different programs
- www.pacer.org



Simon Technology Center Services

- Assistive Technology Information and Referral
- Simon Technology Center Library & A.T. Finder
 - www.pacer.org/stc/atfinder
- Free Assistive Technology Consultations
- Free workshops
- In-service trainings



Digital Books



What are Digital Books?

- Digital books are the digital media equivalent of conventional printed books.



AIM

AIM – Accessible Instructional Materials



- Textbooks
 - Related core instructional materials:
 - Accompanying workbooks, handbooks, etc. that coincide with the textbooks
- Additional assigned reading books & materials
- Instructor developed and produced materials

Accessible Materials

Digital/Electronic Format  **Always Accessible**

Accessible means:

- Functions and modifications that are necessary for an individual reader can be completed effectively and efficiently

Examples include:

- Material can be navigated effectively
- Electronic text appearance can be modified appropriately
- Speech rate can be modified
- Electronic Text file contains unlocked text characters
- Images are tagged with full descriptions as appropriate
- Math related materials are written in MathML or provide appropriate descriptions of math equations

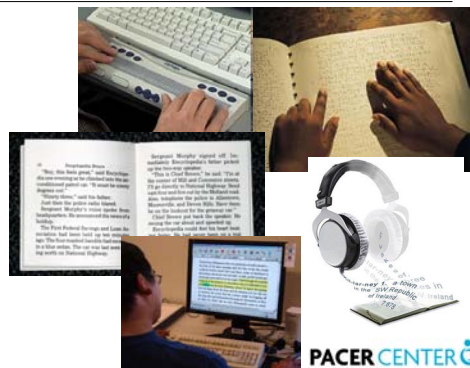
AIM for School Setting

- Archived webinar
 - www.pacer.org/pacerwebinars
- Learning Agenda:
 - AIM Defined
 - Specialized Formats
 - Student Focus & UDL implementations
 - Sources for AIM
 - The Law & AIM
 - Copyright Law
 - Reauthorization of IDEA 2004
 - Section 504 of the Rehabilitation Act of 1973
 - Coordinated Effort to Provide AIM: NIMAS & NIMAC
 - Student Consideration Process
 - Summary of AIM Acquisition

Specialized Formats

- Braille
- Large Print
- Electronic Text
- Audio Book

- These formats can be found either ready to read, or they can be converted from an electronic file into the appropriate format



Digital Book Media Formats

E-Books (electronic text)

- Visible e-text on screen
- Can be read aloud with additional text-to-speech software
- Examples: .TXT, .HTML, .XML

Audio Books

- No text available
- Played with audio players
- Examples: MP3, WAV, WMA, DAISY

Digital Braille

- Electronic file translates into Braille code; no text and no audio
- Accessed with refreshable Braille displays or Braille notetakers
- Example: BRF file



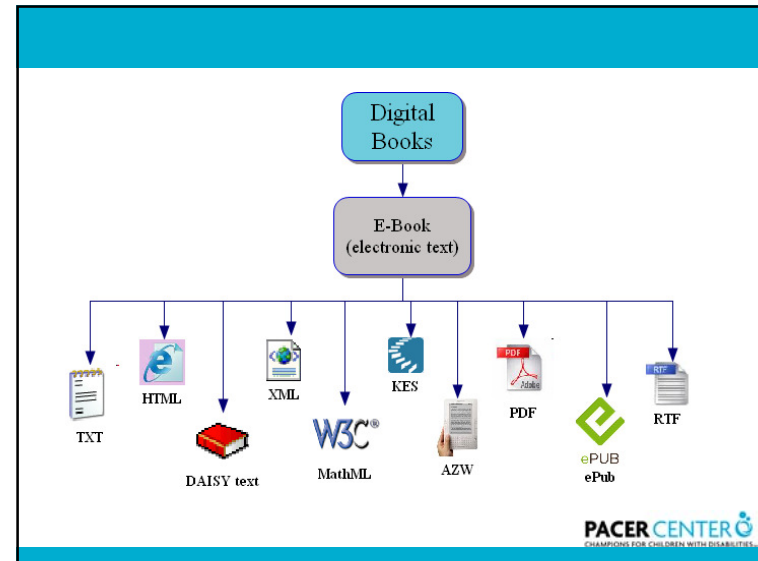
AIM Acquisition Sources

- **Do-it yourself**
 - Proceed in compliance with Copyright Law: Fair Use
- **Free Sources**
 - No qualification requirements
- **Commercial Sources**
 - No qualification requirements
- **Specialized Sources**
 - Requirements regarding print disability
- **AMPs (Accessible Media Producers)**
 - General collection – requirements regarding print disability
 - NIMAS sourced collection – requirements regarding print disability and IDEA
- **NIMAC (National Instructional Materials Access Center)**
 - Requirements regarding print related disability and IDEA

Resources for Sources

- National Center On Accessible Instructional Materials At CAST
 - <http://aim.cast.org/learn/practice/acquisitiondistribution>
- PACER Simon Technology Center
 - <http://www.pacer.org/stc/pubs/ResourcesforDigitalLiterature.pdf>
- National Library Service for the Blind and Physically Handicapped (NLS)
 - <http://www.loc.gov/nls/reference/factsheets/etexts.html>
- The University of Texas at Austin
 - <http://www.lib.utexas.edu/books/etext.html>
- Candida Martinelli website on eBooks
 - <http://home.wanadoo.nl/cecilia.mccabe/instructions.htm>
 - Resources are presented throughout her 6 online lessons; links found on left side menu
- Special Education Technology Center: Central Washington University
 - http://www.cwu.edu/~setc/et_resources.php

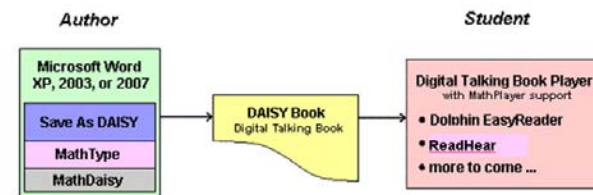
E-Books (Electronic Text)



MathML

- MathML is the World Wide Web Consortium's (W3C) recommendation for encoding math in Web pages.
- Mathematical Markup Language
 - An application of XML
 - Allows mathematical notation and figures to be spoken and navigated properly according to the designed structure and content
- Software to author and play MathML
 - Authoring Tools: Microsoft Word, MathType, MathDaisy & Save As DAISY
 - Players: ReadHear -OR- Dolphin's EasyReader

MathML



- Resources:
 - Design Science www.dessci.com
 - World Wide Web Consortium www.w3.org/Math/

DAISY File Structure

- **DAISY: Digital Accessible Information System**
- Allows navigation access of a digital book similar to a printed book
 - Place bookmarks
 - Navigate by page number
 - Navigate by chapter
 - Navigate by section



DAISY Files

- To play DAISY files (text or audio) you must have a DAISY player (software or hardware)
- Where to find DAISY structured files:
 - Electronic text: www.Bookshare.org
 - Audio files: www.rfbd.org



Software for Playing E-Books

Software for Playing E-Books on the Computer

- **Text Reading Software:**
 - Speak e-text out loud using synthesized computer voice
- **Scan & Read Software:**
 - Convert print text into digital text using scanner and scanning (OCR) software
 - These programs also speak e-text out loud with synthesized voice
 - Offer additional study aids, such as graphical organizers, built in dictionaries



Text Reading Software

- Most are affordable (\$100 or less)
- Some read a variety of file formats
- Some read Internet pages and e-mail
- Some read DAISY books
- Some can convert text to audio (MP3)
- **They don't have the ability to scan print documents**

Text Reading Software

- **Easy Reader**
www.yourdolphin.com
- **Ghostreader**
www.assistiveware.com
- **Natural Reader**
www.naturalreaders.com
- **Read :Outloud**
www.donjohnston.com
www.bookshare.org
- **ReadHear**
www.gh-accessibility.com
- **TextAloud**
www.nextup.com

This is not a comprehensive listing –
there are many more!

Refer to handout, "Text Reader
Software Feature Comparison" for
more information on these text
readers and others.



Natural Reader by NaturalSoft

www.naturalreaders.com

- Compatible with:
 - Word, PDF, HTML, TXT, RTF, Internet using IE
- Use floating toolbar or paste text into reader
- Built-in Magnifier
- Microsoft voices
- Paid versions have more features such as:
 - Converts text to audio
 - Scanning capabilities
 - Word prediction
 - Spell Check
 - Echo Typing
 - Ebook Reader
- Windows XP, Vista, Windows 7
- \$0 - \$200



Read:Outloud by Don Johnston

www.donjohnston.com

- Compatible With:
 - Bookshare files, DAISY 3, HTML, Microsoft "Save As Daisy", NIMAS, Pearson's HTMLbook format, PDF, Rich Text Format (RTF), TXT, XML
- Incorporates several study tools such as highlighters, notes, and the ability to create outlines
- Windows and Mac; \$319

Read:Outloud Bookshare Version

- Compatible with:
 - Bookshare files only
- Free with Bookshare membership
- Windows and Mac

ReadHear by gh

www.gh-accessibility.com

- Compatible With:
 - Bookshare, Daisy, MathML, NIMAS, Plain Text, RFB&D, and SVG images
 - ePub and HTML – in Premium Version only; save webpage as text file to open
- Ability to set bookmarks
- Take notes
- Text highlighting
- Magnification in Premium version only
- Windows and Mac versions available, \$0 - \$250
- Free version for members of RFB&D Members
- Formerly called ghPLAYER
- Free trial



Ghost Reader by ConvenienceWare

www.convenienceware.com

Compatible with:

- Text, RTF, Word, HTML, PDF, Docx, ODT
- Converts text to audio
- Pronunciation editor
- Speaks text in any application
- Text highlighting
- Point and read feature
- Listen to text in language of choice
- \$39.95 (one language)
- Free trial



Scan and Read Software

- Scan print materials into the program
- Read most any e-text format, some read DAISY
- Usually include study tools - highlighting, voice notes, sticky notes, bookmarking, annotation extraction, talking dictionary and spell check, graphic organizers, homonym support, etc.
- Include talking word processor and word prediction
- Generally cost between \$200-1500



Scan and Read Software

- ClaroRead
www.enablemart.com

- Kurzweil 3000
www.kurzweiledu.com

- Read & Write Gold
www.texthelp.com

- Scan and Read Pro
www.readingmadeez.comhome.html

- WYNN Wizard
www.freedomscientific.com



- **This is not a comprehensive list, there are many more!**

- **Refer to handout, "Text Reader Software Feature Comparison" for more information on these text readers and others.**

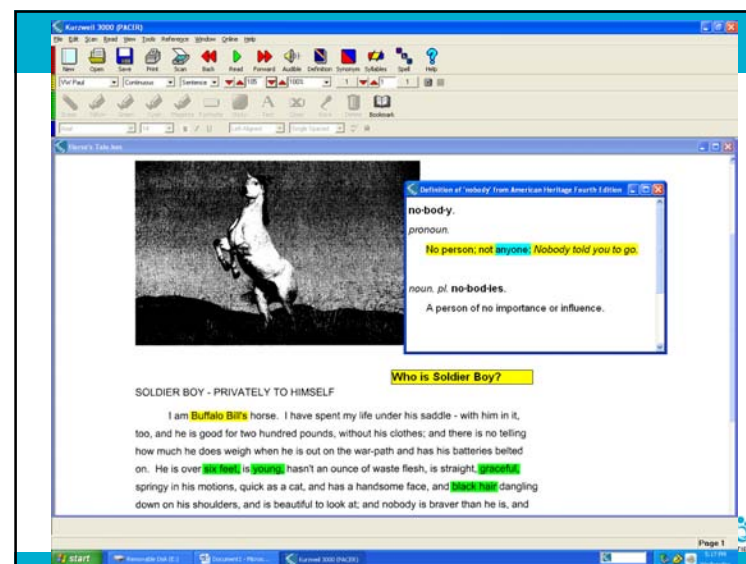
Kurzweil 3000

A Cambium Learning Technologies Company
www.kurzweilededu.com/default.html

- Compatible with: Bookshare, Daisy, Internet Explorer 7 and 8, MathML, PDF, and NIMAS
- Includes writing and study tools:
 - picture dictionary, talking calculator, language translation tools, note taking capabilities, highlighting, word prediction, spell checker, voice notes, bookmarks, converts text to audio
- Color, Black-and-White, and USB versions available; \$1095 - \$1495
- Windows and Mac versions
- Free trial



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WYNN Wizard by Freedom Scientific

www.freedomsscientific.com

- Compatible with:
 - Daisy, HTML, NIMAS, PDF, and Text files
 - Built-in dictionaries, spell checker, homophone support, thesaurus, word prediction, voice and text notes, highlighting, and bookmarks
 - Windows Compatible, \$995

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Read and Write Gold by TextHelp

www.texthelp.com

- Compatible with: Daisy, HTML, NIMAS, PDF, and Word files
- Built-in dictionary, spell checker, thesaurus, word prediction, concept mapping tool, highlighters, and calculator
- Can convert text to audio
- Windows and Mac versions; \$645
- Free trial

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Scan and Read Pro

by Premiere Literacy

www.readingmadeez.com/company

- Has text to speech but does not read Daisy
- Includes magnification, thesaurus, dictionary, talking spell check, word prediction, and ability to have it highlight as it reads
- Supports multiple languages
- Can convert text to WMA audio file or MP3
- Windows; \$150; Available for Mac in the Literacy Productivity Pack or Premier to Go; \$249+
- Free trial



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Hardware for Playing E-Books

Hardware for Playing E-Books

Classmate Reader:

- Reads e-books aloud and plays audio books in various file formats, including **DAISY**
- Touch screen
- DAISY navigational features
- Synchronized audio and text highlighting
- Study supports:
 - Highlighting and bookmarking
 - Talking dictionary
 - Text & voice notes

Sold by:

www.Humanware.com

www.Donjonston.com

- Cost: \$519



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Microphone

Full-color touch screen

Built-in speaker

Study Tools:
Highlighting
Text Notes
Bookmarks

Headphone jack

Volume control and reading speed

Simple four arrow navigation

Go To:
Page heading
Find text

Home - Open books;
audio and visual settings

Speaking dictionary

Voice note recording

Stylus

The new mobile solution to boost reading and learning independence.

ClassMate Reader

Study Tools

- High-lighting
- High-lighting Settings
- Text note
- Bookmark
- Navigate Markings
- Dictionary

struggle - v.
/struggle/
Definitions:
(1) make forceful or violent efforts to get free of restraint or constriction.
(2)

Hardware for Playing E-books

Intel Reader

- www.intel.com/corporate/healthcare/emea/eng/reader/index.htm
- Digital conversion of print to eText
- Compatible with:
 - Bookshare books
 - RFB&D books
- Cost: \$1,495
- Vendors:
 - Don Johnston
 - Humanware

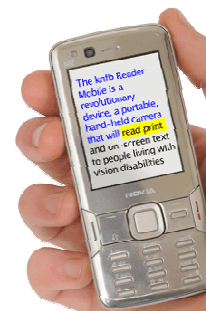


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E-Book Hardware Application

K-NFB Reader Mobile

- www.knfbreader.com
- Convert print to electronic text
- Reads text aloud and provides synchronized text highlighting
- Transfer text files to/from computer or Braille Notetaker
- Nokia N82 and 6220 model only
- ATT or T-Mobile; not necessary
- Software only: \$995



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Hardware for Playing E-books

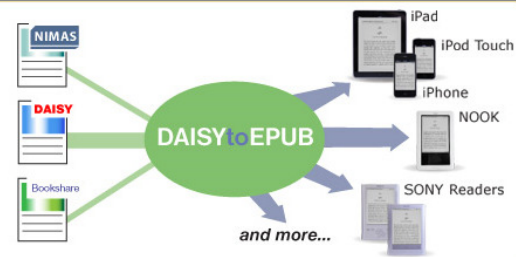
Amazon Kindle 3:

- Versions: Kindle Wi-Fi, Kindle 3G + Wi-Fi, Kindle DX
- www.amazon.com/Kindle
- Compatible with: Kindle (.AZW, .AZW1), TXT, PDF, Unprotected Mobipocket (.MOBI, .PRC), Audible (.AA, .AAX), MP3, and PDF
- Provides file conversion service for: unprotected MS Word (DOC, DOCX), HTML, RTF, JPEG, GIF, PNG, BMP
- TTS if permitted by the copyright holder
- Holds over 3,500 e-books
- Cost: \$139-189-379
- Kindle Software & Apps available



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DAISYtoEPUB



- Software program by Don Johnston
- www.donjohnston.com
- \$99 introductory pricing

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E-Book Hardware Applications

- **Smart Phone/PDA's**

- Portable devices with the ability to display electronic text
- **Mobile DAISY Player; (\$60)**
 - Reads DAISY e-books aloud with Nokia built in text-to-speech (select models) or with *Mobile Speak* (\$275)
 - DAISY navigation functions
 - Compatible only with Symbian-based mobile phones
 - www.codefactory.es
- **Mobipocket Reader**
 - Free reading application (doesn't read aloud)
 - (Blackberry, Windows, Windows Mobile, Palm OS, Symbian)
 - www.mobipocket.com

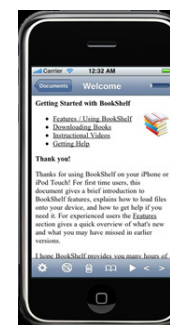


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E-Book Hardware Applications

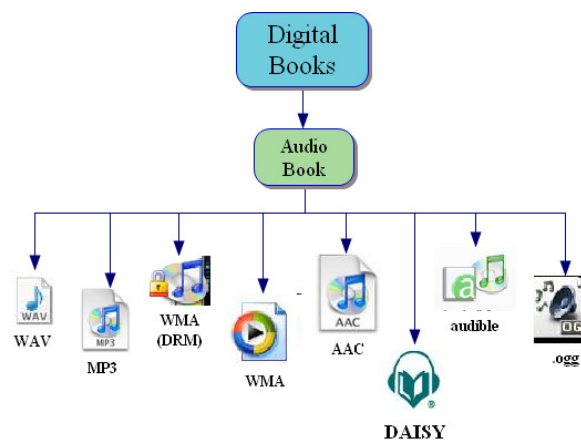
- **Apple iPhone/iTouch Apps**

- **Read2Go** (Bookshare.org; \$19.99)
 - Supports DAISY navigation, TTS, and vision modifications
- **ZoomReader** (AiSquared; \$19.99)
 - Supports real time screen magnification, OCR reading of images, and voice recognition
- **Stanza** (Lexcycle; free)
 - Modify visual appearance of eBook
 - Compatible with PDF, ePub and more
- **iBooks** (Apple; free)
 - Supports VoiceOver
 - Compatible with PDF, ePub, and more



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Digital Audio Books



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Software & Hardware for Playing Audio Books

Digital Media Software

- Windows Media Player
- iTunes
- QuickTime
- RealPlayer
- Winamp
 - www.winamp.com



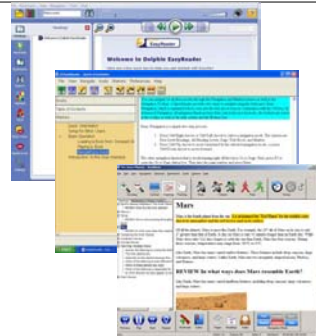
Software to Play DAISY Audio Books

DAISY software features:

- Navigate by book, page, phrase, chapter or section
- Place and go to bookmarks
- Change playback speed
- Fast forward and reverse

(Programs listed below are also considered text readers)

- **ReadHear for PC or for Mac;** (\$150-250) www.gh-accessibility.com
- **EasyReader;** (\$50-55) www.yourdolphin.com
- **eClipse Reader;** (\$85) www.eclipsereader.com/



Portable Players

- **Amazon Kindle 3**
 - Compatibility: Amazon (Audible) books and MP3 files
 - Does not support Daisy format
- **Mp3 player** (\$10-\$400)
 - Does not support Daisy format
- **iPod shuffle, nano & classic** (\$49-\$249)
 - Does not support Daisy format
- **iPod Touch** (\$229-399)
 - App: RFB&D Audio (\$19.99)
 - RFB&D's downloadable DAISY formatted books
 - Supports page & chapter navigation, variable speed, and bookmarking



Portable DAISY Players

- **PLEXTALK Pocket;** (\$395) www.plectalk.com
 - Supports e-books and audio books
 - SD memory card stores books -Windows only
 - DAISY navigation features & bookmarks
 - Variable playback speed
 - External speaker
- **Book Port Plus;** (\$329) www.aph.org
 - Supports digital text and audio
 - Bookshare.org, Audible.com, NLS, RFB&D
 - SD card storage
 - Accessible navigation
 - Record voice notes and save as a Digital Talking Book



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Portable DAISY Players

- **Milestone 312;** (\$449) www.bones.ch
 - Plays digital audio and text
 - Bookshare.org, RFB&D, NLS, Audible.com
 - SD memory card
 - DAISY navigation and bookmarks
 - Voice recorder
- **Telex Scholar Portable Player;** (\$250) www.telex.com
 - Plays DAISY CDs and MP3 CD's
 - DAISY navigation and bookmarks
 - LCD screen displays disc details



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Portable DAISY Players



- **Victor Reader ClassicX** www.humanware.com
 - Plays DAISY Books on CD
- **Victor Reader Stream;** (\$359) www.humanware.com
 - Supports audio and e-books
- **ClassMate Reader;** (\$519) www.humanware.com
 - Supports e-books with visual text display, and audio books

*See Comparison Chart for Talking Book Players

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Victor Reader Stream; (\$359)

www.humanware.com

- Built in text-to-speech for e-books
- DAISY navigation features
- Go-to functions
- Bookmarking
- Voice notes
- Compatible with many different file types
- SD card memory



Digital Braille



Digital Braille

- .BRF – Braille Ready File (electronic file)
 - Can be read on a Braille display
 - Can be transmitted to a Braille embosser
- Electronic Text
 - Read by Screen Reader
 - Read by Refreshable Braille Display



Software & Hardware for Playing Digital Braille

Software & Hardware

- Screen Readers
- Scanners/Reading Systems/Reading Machines
- Refreshable Braille Devices
- Braille Note Takers
- Handheld/Portable Devices
- Braille Embossers

Resources

- **American Foundation for the Blind**
 - Braille Technology
 - www.afb.org/Section.asp?SectionID=4&TopicID=31&DocumentID=1282
- **AIM.CAST.org**
 - Sensory: Blind and Low Vision:
http://aim.cast.org/learn/disabilityspecific/sensory_blind_lv
- **V.I. Guide**
 - Assistive Technology: www.viguide.com/techcat.htm
- **DAISY Consortium**
 - Tools & Services: www.daisy.org/tools/all
- **Vendors** (This does not indicate endorsement, nor is it an exhaustive list)
 - www.humanware.com
 - www.handytech.us
 - www.secondvisiononline.com
 - www.clearvisionmidwest.com

Considerations



Student Consideration Process

- Determination of need
- Selection of formats
- Acquisition of formats
- Selection of supports for use
 - Assistive Technology
 - Accommodations and/or modifications
 - Training
 - Support staff
 - Repair and upgrade

AIM Navigator

- Interactive online tool that assists in facilitating the decision making process regarding AIM
 - Guiding questions
 - References and resources
- What AIM Navigator is **NOT**:
 - Screening or diagnostic tool
 - Prescriptive report generator

http://aim.cast.org/experience/decision-making_tools/aim_navigator

AIM Explorer

- **Determination of Student Need:** AIM simulation tool that can assist in assessing:
 - Student need for AIM
 - Student preferences



http://aim.cast.org/experience/decision-making_tools/aim_explorer

AIM Product Tutorials

Assist with student consideration process in regard to matching appropriate tools for a student to access AIM

- Video demonstrations of ten different tools to use for AIM
 - http://aim.cast.org/experience/decision-making_tools/tutorials
- AIM products feature chart
 - http://aim.cast.org/experience/decision-making_tools/tutorials/aim_products_chart

Considerations for Digital Book Formats

- Will the student access reading materials best through audio, visual, visual paired with auditory supports, or tactile?
- Is there a preferred type of audio support: human narration or synthesized speech (computer/electronic speech output)?
- Which navigation abilities are important to include for the student's reading and study needs?

Considerations for Choosing Software/Players

- Does the user need a portable option for various environments?
- What book formats (i.e. DIASY, html, etc.) would the student benefit from – which player would be compatible with these formats?
- Would text to speech be (for electronic text format)?
- Does the student need to scan print material into the device or program?

Considerations for Choosing Software/Players

- Would the user benefit from the additional study tools provided in certain programs?
- What type of operating system (Mac or PC) does the student use and is it compatible with the software and/or hardware?
- What type of synthesized voices does the program use? Are they appealing to the student?



Thank you for attending!

Please complete the evaluation form you will receive shortly.