Deaf-Blind and Accessible Technology

From a Teaching and Technical Point of View

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Goal

Introduce undergraduate students, who are planning to take the Accessibility Capstone in winter quarter 2010, to the accessibility technology and research area. Students will hear lectures from and discuss ideas with researchers, practitioners, and users of accessible technology.

(Source: http://www.cs.washington.edu/education/courses/cse490n/09au/)

What is Deaf-Blind?

- Combination of the two:
  - Hearing Loss
    - Ongoing hearing loss; cannot be corrected
    - Speech may not be understood easily

  and

  - Vision Loss
    - 20/200 or greater in central vision (uncorrected) and/or
    - Less than 20 degrees peripheral vision

(Source: American Association of the Deaf-Blind)

What is Deaf-Blind? Continued...

- Deaf-Blind can include:
  - Deaf and low vision
  - Deaf and limited peripheral vision
  - Deaf and blind
  - Hard of hearing and low vision
  - Hard of hearing and limited peripheral vision
  - Hard of hearing and blind
- Number ranges from 40,000 to 70,000

(Source: American Association of the Deaf-Blind)

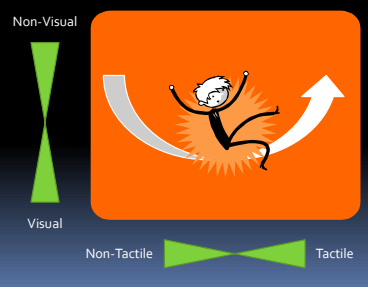
What is Accessible Technology?

- Description of AT:
  - Tools that can compensate, not remedy
  - Interface (input and output) considerations

(Source: UW DO-IT)

Deaf-Blind Continuum

- Visual ability versus Receptive technique



AT - Low Vision examples

- Mobile
  - Screen adjustments on GPS
  - Screen adjustments on pagers
  - Portable CCTV
- Non-Mobile
  - Large monitor
  - Screen adjustments on computers
  - Scanner for adjustment of print materials

AT - Braille system examples

- Mobile
  - Notetaker
  - Braille GPS
  - Smaller (x =< 40 cells) separate / built-in Braille display
- Non-Mobile
  - Screen reading applications
  - Scanner for reading print materials
  - Larger (x=> 40 cells) Braille display

Teaching Challenges

- Global
  - Limited teaching knowledgebase
  - Limited teaching support and resources
  - Limited "Train the Trainer" programs
- Local
  - Instructional Techniques
  - Curriculum Development
  - Participant Skill Maintenance

Technical Challenges

- Global
  - Funding resources
  - Pace of technological changes
  - Low Incidence Population
- Local
  - Natural Language
  - Equipment Maintenance / Turnover
  - Funding resources
  - Manuals and Materials

Impact on Outcomes

Varies across the spectrum:

- Education
- Communication
- Social
- Economical
- Vocational
- Independent Living
- etc…

Q&A

- Questions
- Comments
- Insights

Contact

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