



Agenda

- Classroom Access
- Communication Technologies
- Signaling Devices

Overview

- Internet technology is transforming the interactions of individuals who are deaf or hard of hearing
- Textual, visual and real-time alternatives for accessible communications

Classroom Access

Video Remote Interpreting (VRI)

- Uses video-conferencing technology to provide interpreting services from off-site locations
- What's needed?
 - Web camera(s)
 - Display screen
 - Microphone/speaker
 - Software
 - Fast internet connection

Amy Hogle, UWM Interpreter Coordinator, working in the PantherCom studio.

Choosing VRI

- Effective strategy in areas without a large pool of qualified interpreters
- Requires good connectivity in classroom
- Class format – lecture or interactive group?
- One-way or two-way connections? Consider student participation
- Reading sign language from the screen may be more difficult than in person
- **Firewalls** may pose problems!

CART Communication Access Realtime Translation

■ What is it?

- Speaker's words displayed on screen or laptop
- Usually a *verbatim* readout with disk/printout available after class

■ When is it used in higher education?

- Classroom settings, meetings, assemblies

CART Communication Access Realtime Translation

■ Who's the typical student using it?

- Student in courses with complex terminology; oral deaf or late-deafened individual

■ Who provides it?

- Skilled stenographers with additional training in captioning



Speech-to-Text Systems

■ What are they?

- Speaker's words displayed on screen or laptop
- Provides *meaning-for-meaning* translation
- Uses word processing software aided by abbreviation software

■ C-Print®

- Developed at NTID, based on years of research
- Automatic speech recognition available
- Online training!

■ TypeWell

Speech-to-Text Systems

■ Who's the typical student using them?

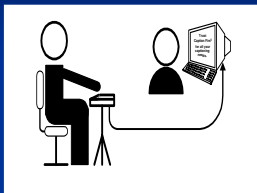
- Students for whom English is their first language; hard-of-hearing, oral deaf or late-deafened individuals

■ Who provides it?

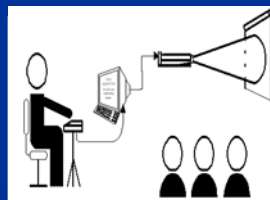
- Trained captionists who use laptops and software



How Is It Set Up?



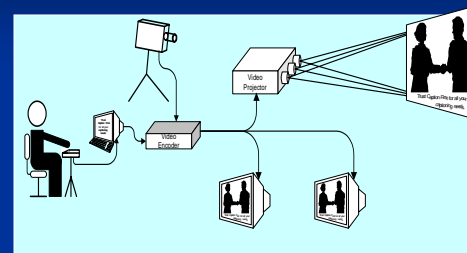
One-on-one Captioning



Overhead Captioning

Graphics courtesy of Caption First

How Is It Set Up?



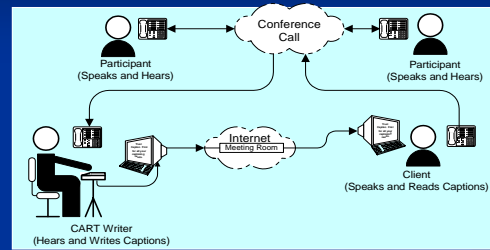
Speaker Image Captioning

Graphic courtesy of Caption First

Remote CART

- CART provider listens to the speaker via telephone
 - Writes the realtime account
 - to a Web site that the student is logged onto
- OR**
- Text appears on the student's computer screen

How Is It Set Up?

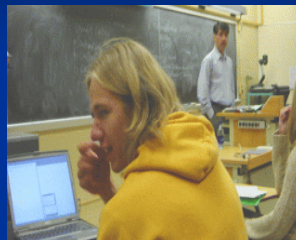


Remote CART via Internet

Graphic courtesy of Caption First

Remote C-Print®

- C-Print® provided for student access
- Service provider is at remote site
- Connections through phone lines and internet



Karsten Powell, University of Wisconsin-Eau Claire student, using PantherCom remote C-Print captioning in class.

Caption Mic

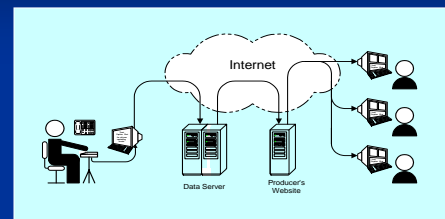


- Voice captioner uses a dictation mask or headset and "echoes" what is said in the classroom
- Speech recognition software converts speech into captions
- 4 -10 hours of speech model training required

Liberated Learning Initiative

- Instructor "teaches" speech recognition software to understand his/her speech
- Uses wireless microphone connected to computer
- Custom software converts spoken lecture into text
- Uses pauses in speech to create visual breaks
- Text is displayed in class

Captioning Webcasts



Webcast Captioning

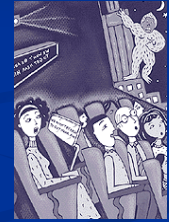
Graphic courtesy of Caption First

Captioning of Videos

- Process of converting the audio portion of a film, video, or CD-ROM into text
- Open captions vs. closed captions
 - Check equipment to make sure captions will show!
- Captioning existing materials?
 - Professional services available
 - Can purchase software for in-house use

Rear Window Captioning

- Movie-goer uses a transparent acrylic panel that attaches to the seat
- Captions are projected from rear of theater and appear to be superimposed on movie screen
- Panels are portable and adjustable



Communication Technologies

TTYs: The Sixties



- 1964 – TTY invented
- Also known as a **TDD**
- Allowed deaf people to communicate with other TTY users without depending on hearing friends and family to interpret

The Shrinking TTY



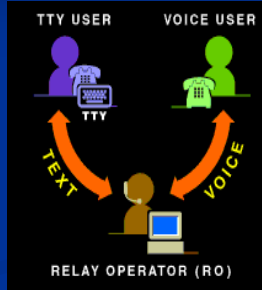
On Campus TTY Access

- **Strategic locations on campus**
 - Student service offices
 - Library
 - Residence halls
 - Campus security
- **Pay phone TTY access**
 - After hours access
 - Community access



Telephone Relay Services

- Access relay: Dial 711
- Deaf person types message on TTY
- Relay operator **voices** typed info and **types** what hearing caller says



Videophones

- Tiny built-in camera allows direct communication
- 15 frames/sec.—very slow for smooth transmission of ASL
- Small screens



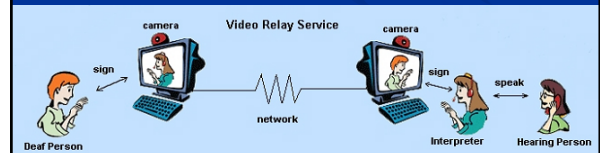
Videophones—Advances!

- Big screen—uses TV!
- Smooth transmission of ASL
- Operates as a stand-alone device:
 - Plug into TV and high speed Internet connection
 - Make live video phone calls to all over the world
- D-Link i2eye™; '03 Electronic House Product of Year



Video Relay Service (VRS)

- Allows sign language users and hearing persons to communicate via videoconferencing with a remote video interpreter
- Uses web-cam and high-speed internet connection
- Log onto VRS website; connect with video interpreter who calls any phone number



VRS Advantages

- Ability to communicate in sign language
- Increased communication speed



- Enhanced communication with use of
 - Facial expression
 - Body language gestures

Internet Relay Service

- Place text relay calls online without TTY
- Users connect to a Communications Assistant through the Internet relay website:
 - Type outgoing messages on computer keyboard
 - Read incoming messages on computer monitors



Internet Relay - Advantages

- Larger text display area
- Up-front call instructions to the Communications Assistant (relay operator)
- Adjustable text sizes and colors for easier reading
- Split-screen mode to separate conversations

NexTalk



- Call or accept calls from a TTY
- Live, direct text communication
- Web-based service--anyone on browser can call
- Advantages:
 - Server handles calls; no relay operator needed
 - Free calls and downloadable software
 - TTYs not needed in offices to receive TTY calls
 - Training of staff is simplified
 - Conversations can be documented, printed, archived

Captioned Telephone (CapTel)

- CapTel phone used to place/receive calls
- Connects with captioning service
- Caller uses own voice; reads captions
- What's needed?
 - Captioned telephone
 - CapTel service
- Similar to 2-line VCO, but uses only 1 line and 1 device



Two-Way Pagers



BlackBerry



T-Mobile Sidekick



Nokia



WyndTell RIM



Treo Smartphone

Blackberry

Pros

- Excellent coverage
- Light & thin, easy handling
- Use as phone (though may lack power needed for HH users)
- Syncs with MS Outlook
- Font size selections
- AOL AIM chat (though experiences are varied)

Cons

- No relay access via internet
- Cannot use with camera
- Cannot download photos via email
- Expensive to purchase
- IM access may be weak
- Inadequate Web Browser



T-Mobile Sidekick

Pros

- Relay is available!
- Can use with camera
- Decent coverage
- AOL AIM chat (Excellent access)
- Sells at many deaf events
- Use as phone
- Relay access via Terminal Client and/or IM Camera
- SK II has IntelliSync--- syncs with MS Outlook

Cons

- Breaks easily
- Coverage not as good as major carriers
- One font size
- Faulty flipscreen



Using Pagers with Students

- Ongoing communication between students and DSS staff
 - Use of email instead of phone or face-to-face interactions
- Just-in-time communication
 - Notification of schedule changes
- Document exchange
 - Class notes or transcripts
- Scheduling and alarm features

Interpretype®

- Two pre-programmed laptop style computer devices
- Each device sends and displays typed messages to other device
- Log on to have a conversation by reading and typing
- Aids face-to-face communication



AlphaSmart

- Low Cost
- Long Battery Life (700 hours on 3 AA batteries)
- Lightweight rugged design (less than 2 lb.)
- 4-line by 40-character LCD display
- International character support for Danish, Dutch, French, German, Italian, Portuguese, Spanish and Swedish



Communication Assistant

- Provides text captions through a transmitter
- Tiny, wearable display for access to public events and places
- Developing at Georgia Tech Rehabilitation Engineering Research Center (RERC)– not yet available



http://www.wirelessrerc.gatech.edu/projects/development/d2_survey.html

Instant Messaging

- **Benefits**
 - Cheap information and community tool
 - Promotes efficiency in getting answers to questions
 - Supports multi-user conversations
- **Drawbacks**
 - Often misused
 - Concerns about security

Signaling Devices

Signaling Devices Used on Campus

- **Visual smoke detectors and flashing fire alarms**
 - Residence halls (common areas; student rooms)
 - Campus buildings
- **Door knockers**
 - Residence hall use
 - Portable units available
- **Captioned TVs in common areas**



Postsecondary Education Programs Network



www.pepnet.org

Click on "Resource Center" for PEPNet products

Where to Get More Information?

PEPNet Resource Center

<http://prc.csun.edu>

Resources

Resources: Captioning of Videos

- Captioned Media Program, SC
www.cfv.org
- Closed Caption Maker, MD
www.ccmaker.com
- NCI (National Captioning Institute), VA
www.ncicap.org
- WGNH/National Center for Accessible Media, MA
<http://ncam.wgbh.org>
- Captioning Web
<http://www.captions.org/softlinks.cfm>

Remote CART

- <http://www.cartinfo.org/remotecart.html>
- <http://www.captionfirst.com/>
- <http://www.captionsunlimited.com/pages/1/index.htm>
- <http://www.educaption.net/>

Remote C-Print ®

- Wisconsin: Panther project
 - http://www.uwm.edu/Dept/DSAD/SAC/February2003/SAC_NEWS.html
 - Shannon Aylesworth aylessr@uwm.edu
 - Ginny Chiaverina ginnyc@uwm.edu
- Maine:
 - Lisa Sorenson [207-282-3421](tel:207-282-3421)
act@maine.rr.com

Resources: Video Remote Interpreting (VRI)

- <http://www.interpretersinc.com/services.htm#2>
- <http://www.signonasl.com/video.htm>
- <http://mason.cuir.uwm.edu/panthercom/guidelines.html>
- http://www.cacdhh.org/video_interpreting_services.html
- <http://www.signtalkamerica.com/pages/1/index.htm>
- <http://www.caninterpreters.com/>
- <http://www.sorensonvrs.com/what/faq.php>
- <http://www.interpretingsolutionsinc.com/Services.asp>

Resources: Speech-to-Text Systems

- C Print ®
www.ntid.rit.edu/cprint
- Typewell
www.typewell.com
- Viable Technologies
www.viabletechnologies.com

Resources: Internet Relay Service Providers

ATT: www.consumer.att.com/relay
CSD: www.c-s-d.org
Hamilton Telecommunications: www.hiprelay.com
MCI: www.ip-relay.com/index.htm
Sorenson: www.s-vision.com
Sprint: www.sprintvrs.com

Resources: Video Relay Services (VRS)

ATT: www.consumer.att.com/relay/video
Communication Access Center for Deaf and Hard of Hearing: www.cacdhh.org
CSD: www.c-s-d.org
Hamilton Telecommunications: www.hipvrs.com
Hands On Sign Language: https://secure.hovrs.com/VRS_SSL/hovrs.aspx
MCI (IP-Relay): www.ip-relay.com/index.htm
Sorenson: www.s-vision.com
Sprint: www.sprintvrs.com

Video Relay Service (VRS)

Demos:
<http://www.relaycall.com/national/index.html>
<http://www.ip-vrs.com/videorelay.jsp>

Face-to-Face Communication

Interpretype: www.interpretype.com

AlphaSmart: www.alphasmart.com

Communication Assistant:
www.wirelessrerc.gatech.edu/projects/development/d2_survey.html

Resources: Instant Messaging

- AOL Instant Messenger
<http://www.aim.com/>
- MSN Messenger
<http://www.msnmessenger-download.com/>
- Yahoo Messenger
<http://messenger.yahoo.com/>