

COLORADO COMMISSION FOR THE DEAF AND HARD OF HEARING

E-Journal

News about Colorado's Deaf & Hard of Hearing Communities

EMAIL: Deaf.Commission@state.co.us • WEBSITE: www.cdhs.state.co.us/DeafCommission • TTY: 303-866-4734
VOICE: 303-866-4824 • FAX: 303-866-4831 • ADDRESS: 1575 Sherman Street, 2nd Floor, Denver, CO
80203

ARTICLE REPRINT SERIES ♦ FROM SUMMER 2004 ISSUE ♦ REBECCA HERR, E-JOURNAL EDITOR

ASSISTIVE TECHNOLOGY BASICS

Turning Speech into Text: Computer Assisted Real-Time Translation (CART)

Imagine you are sitting in a large meeting room, with the speaker 30 feet away, air conditioning fans, slide projectors, or overhead projectors humming loudly in the background, and people muttering and rustling papers all around you. Beyond a thin divider, another lecturer's voice is heard. Questions from the audience come from behind you and all over the room, in voices loud and soft. If you are Hard of Hearing, you know what this means: a real struggle to speech-read (lip-read) the speaker from too far away, motor noises that drown out speech in your hearing aids, too much sound competing for your attention, and missing out on most of the audience discussion. But there you sit, following every word of the speaker's presentation—and all the audience comments as well. How can this be? A little bit of human-and-machine magic called CART. Instead of hearing the spoken words, you are reading them.

Computer Assisted Real-Time Translation (CART) is called a "voice-to-text information system" and a "word-for-word speech-to-text interpreting service." It is also known as "Communication Access Real-Time Transcription" or "real-time captioning." I just call it wonderful. I have been Hard of Hearing all my life and this innovative system allows me to fully participate—finally!—when attending lectures, workshops, and group meetings, even in the most challenging listening environments.

A CART captioner uses a stenographic machine, a laptop computer, and specialized software to transcribe spoken words. The resulting text is displayed on the computer monitor (for one or two individuals) or projected onto a wall or screen (for larger groups). The modified steno keyboard and customized software dictionaries allow the CART captioner to transcribe spoken words quickly and accurately. Like sign-language interpreters, good CART reporters have a very high degree of skill, and the best are in high demand. Most are trained as court reporters, and then take additional classes in CART transcription.

Under the American with Disabilities Act (ADA), CART is listed as an assistive technology system that can provide "effective communication access." People who are Deaf or Hard of Hearing use CART most frequently; late-deafened people, oral deaf, and those with cochlear implants often prefer CART. Some people who were born deaf prefer CART to ASL interpreting. Deaf-blind individuals can sometimes use CART if the text is enlarged enough and back-lighted. People with unacknowledged hearing losses also benefit. It is also valuable for anyone who is physically unable to take notes, or unable to take notes and concentrate at the same time, such as people with auditory processing disorders. It is perfect for Deaf or Hard of Hearing people who have little or no knowledge of sign language or speech-reading.

CART services are usually provided by captioners on-site, but some CART providers are now offering remote CART services: the speaker's voice is transmitted electronically to a remote location, and the text returns to the reader on a laptop computer or display screen, via an Internet connection. Some systems can even send text to wireless devices such as PDAs or pocket PCs. The cost for CART services is similar to that for qualified sign-language interpreters, or sometimes a bit higher. I have attended conferences that provided both interpreters and CART—now that's full communication access! In some situations, I

prefer to watch and speech-read the speaker, but since only 30-40% of speech is visible on the lips, it is great to be able to glance at the CART text to catch any words I missed.

Where is CART used? Conferences, conventions, meetings, schools and colleges, courtrooms, church services, senior citizen meetings, weddings and funerals, theater performances, civic events such as council meetings. And anywhere else that communication access is desired...

One the problems I've faced for years is taking notes, since I am a speech-reader. The second I take my eyes off the speaker to write, I miss the next words that are spoken! With CART services, after the event you have a written transcription of every word. (Some CART providers charge an additional fee for transcripts.) Of course, every single word is there, including digressions and redundancies that we "filter out" when listening or taking notes. But I love having that record to refer to later. For example, as president of Boulder Self-Help for Hard of Hearing People, I would extract phrases from the CART transcript of a speaker's talk when writing my monthly column. Members complimented me on my "amazing memory"—"How did you recall her speech word for word? I didn't see you taking notes."

You must have good reading skills to benefit from CART, however. With some set-ups, I have had to be a fast reader also—when just a few lines of text are visible, they disappear quickly! The only other downside I see is that Colorado (and other places as well) does not now have enough CART captioners to meet the demand. In my own experience, captioners that have only court reporter training do not make the best captioners—the accuracy level of a true CART captioner is preferable.

As with sign-language interpreters, consumers must make arrangements for CART services in advance of an event. But who pays for CART services? CART is included in the ADA definition of "auxiliary aids," so Deaf and Hard of Hearing people have the same rights to CART services as they do to sign-language interpreters and assistive devices. Government entities, schools, colleges, businesses, and other organizations that serve the public must provide reasonable accommodations unless the cost creates an undue hardship. "Undue hardship" does not mean, "we haven't budgeted anything for this expense"—the cost of CART service is considered in light of the total resources available to the organization. As a consumer, you may have to educate people in the community about this great service, since it is a relatively recent development. Please contact the CCDHH for information on locating CART providers in Colorado.

FOR MORE INFORMATION ABOUT CART CAPTIONING:

Communication Access Information Center website: www.cartinfo.org

NCRA Online Community for CART providers website: cart.ncraonline.org

Deaf Resource Center Links to CART resources: www.deafbiz.com/links/captioning-cart.html

CARTwheel, an organization of CART providers: www.cartwheel.cc