

# The Basics-

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# Speech to Text Services





# PEPNet

**Advancing educational  
opportunities for people who  
are deaf or hard of hearing**

# PEPNet

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**Advancing educational opportunities for people who are:**

- **Deaf or Hard of Hearing**
- **Deaf or hard of hearing, and with co-occurring disabilities**

# Regional Centers

**PEPNet, a national network created by the collaboration of four regional centers**



# PEPNet's Mission

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**To improve educational outcomes,  
PEPNet partners with:**

- Educators
- Service Providers
- Parents

# **PEPNet is sponsored by:**

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**The U.S. Department of Education,  
and Office of Special Education  
Programs.**

# The Basics-

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# Speech to Text Services



*Realtime?*

Typewell

*CART?*

*Open Captions?*



*Offline?*

*C-Print?*

*Speech to text*

# Nuts and Bolts:

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## Basic types:

Postproduction (Off-line) : Captions created and added after a video segment has been recorded and before it is aired or played.

Real time (on-line): Captions created and displayed at the time of program origination.

# Post-production (Off-line) :



Closed captions: hidden unless they are made visible by a decoder or TV with a decoder chip, usually white letters encased in a black box.

Open captions: similar to subtitles, part of the video image and are always visible—no decoding is needed. They are usually white letters with a black rim.

Subtitles: are similar to open captions, do not indicate information such as sound effects, speaker identification

# Hallmarks in Captioning History

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**First experiments with steno machines**

**1950s- Used to translate foreign languages**

**First open captioned TV programs**

**1972- Julia Child's "The French Chef"**

**1973- Rebroadcasts of ABC News**

**First Line-21 TV closed captioning system**

**1976- by the FCC**

# **Hallmarks (cont'd)**

**First realtime closed captioning program**

**1982 - ABC “World News Tonight”**

**Law mandating all TV’s over 13” have  
built-in decoder**

**1993 – Congress passed the  
“Television Decoder Circuitry Act”**

Professionals working in this Community

Family members

DEAF

Children of Deaf Adults



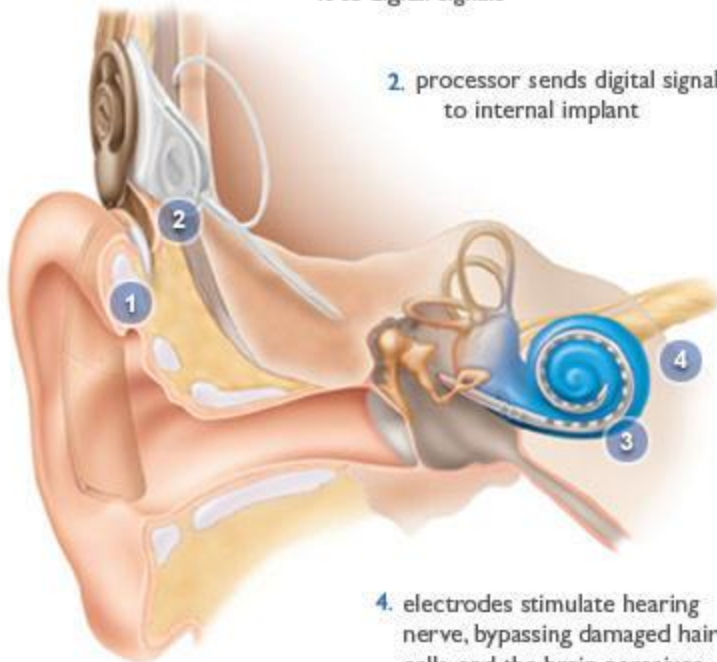
# Cochlear Implant

1. external speech processor captures sound and converts it to digital signals

2. processor sends digital signals to internal implant

3. internal implant turns signals into electrical energy, sending it to an array inside the cochlea

4. electrodes stimulate hearing nerve, bypassing damaged hair cells, and the brain perceives signals; you hear sound



Professionals working in this Community

Family members

Children of Deaf Adults

DEAF



# Real-time (on-line) :

Classroom

Meetings

Live television



# Technology:

## 1. Steno Based

CART (Communication  
Access Realtime  
Translation)



# Advantages of CART

- Verbatim transcripts
- Quality control: NCRA certification
- More extensive training
- Accuracy at high speeds
- Quieter
- Can caption for extended periods

# Technology:

## 2. Laptop based

- C-Print
- TypeWell





# Same Speech, Three Different Transcripts

- **Verbatim**

“Here is a cross section of the Great Pyramid. One of the things they did, is you have all of this work going on here. Here is a chamber cut into the bedrock. All the way down here. What people can't figure out is: How did they get the fresh air -- this is like 300 feet or more down this shaft into this big chamber that was cut into the bedrock. How did they get fresh air down in there? Because you are going to have people down there working, breathing, and exhaling. After a while, they would use up all the oxygen. So, how do they get fresh oxygen down there for those people. That is one problem. “

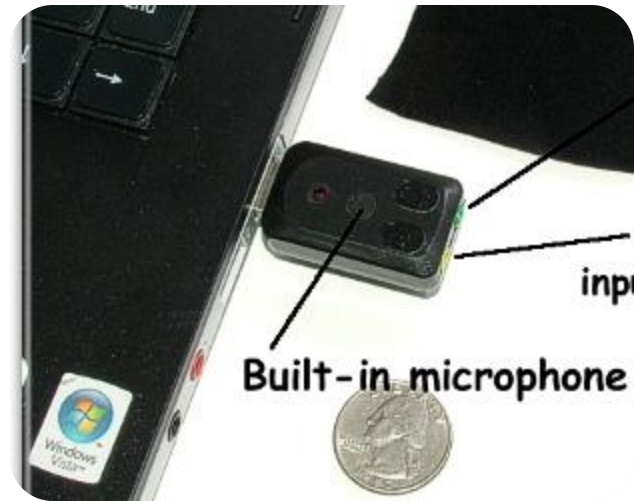
# Two Meaning-for-Meaning Samples

- “Here is a cross section of the Great Pyramid. There is all this work going on. There is a chamber cut into the bedrock. How did they get fresh air in there? People are breathing and exhaling and they would use all the oxygen.”

Here is a cross section of the Great Pyramid. One of the things they did, you have all this work going on, a chamber built into the bedrock. How did they get the fresh air 300 feet or more down this shaft into this chamber? Because you will have people down there working, breathing and exhaling, and after a while use up all the oxygen.

# Simple, Powerful USB Microphone

Price: approximately  
\$50 - \$100  
depending on  
additional  
accessories.



<http://www.soundprofessionals.com/cgi-bin/gold/category.cgi?item=SP-SKYPE-MIC&source=froogle>

# Technology:

## 3. Voice Writing:

Uses Voice Recognition  
Software



## AMERICANS WHO USE CAPTIONING (in millions)

Deaf & hard-of-hearing _____	28 (8-15%)
Children & adults learning to read__	45 (13 –20%)
Learning 2nd language _____	15 (4-10%)
Patrons of public places _____	50 (12-30%)
Users of exercise facilities _____	30 (8-20%)
Total of all categories _____	168
<i>Overlap</i> _____	<i>50 (est.30%)</i>
Estimated caption users _____	118

information is derived (i) primarily from a series of statistical surveys conducted by independent authorities including National Institute of Deafness and Other Disorders (NIDCD), National Institute of Health (NIH), Centers for Disease Control (CDC), National Center for Health Statistics (NCHS), and the National Association for Hearing and Speech Action (NASHA)

## ► Teaching

## Communication

## Support Services

## Environment

Introduction

First Day of Class

► Pace

Complexity

Visuals

Attention

Point of Reference

Animated Gestures

Calling on Students

Giving Directions

Testing

Directions for Labs

Introduction

First Day of Class

Pace

Flow

HH Students

Transitions

Labeling/Referencing

Rules

Vocabulary

Introduction

First Day of Class

Interpreting

Tutoring/Office Hours

Notetaking

Live Captioning

Materials and Media

Introduction

First Day of Class

Lighting

Competing Sound

Seating

Line of Sight

Safety

Laboratory/Studio

Group Work

Field Work

Class Act

Pace • Teaching • Challenges/Strategies

► Challenges/Strategies

Site Accessibility

Using This Site

Discussion Board

Student Perspectives

Teacher Perspectives

Teaching Tools

Search Class Act

GO

## Challenge

You are feeling the pressure to get through as much of the required course material as quickly as possible. In your rush to cover the material you talk rapidly, move quickly through overheads, and hold class questions to a minimum.

You are presenting new concepts and new vocabulary so quickly that



Videos

1.2.3.4.

5

# Who Uses Captions?

- Not proficient in sign language
- An assistive listening device is not enough
- Require braille captioning
- Adequate reading skills
- NOTE: This decision is different in K-12 vs. postsecondary

# Speech to Text Success

- Train current school employees
- Share captioning position with other schools
- Cross train interpreters
- Internships with court reporting school
- Remote services

# Remote Speech to Text Services:

## Who does this?

- Individual providers, listed in directories  
<http://cart.ncraonline.org/Directory/Remote.htm>  
<http://www.cartwheel.cc/index.php>
- Agencies, for example  
<http://www.speche.com/>  
<http://www.captionfirst.com/index.htm>
- Staff providers from one building on campus to another

# Remote Captioning

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The following agencies are listed as  
examples only,  
**not** endorsements

# RROC Remote Realtime Online Captioning

North Dakota Center for Persons with Disabilities

## USE OUR SERVICE ANYTIME ANYWHERE



WORKS GREAT FOR CONFERENCES OR SPECIAL EVENTS TOO!

You see what we hear.™



[www.2020Captioning.com](http://www.2020Captioning.com)

866 554-2099

# captioning &reporting



20/20 Captioning is always prepared, always on time, and always responsive. Our team consists of Nationally Certified realtime writers located across the United States, which allows us to serve clients in all time zones.

### Services

- **CART:** Nationwide Remote and Onsite
- **Captioning:** Broadcast, Emergency, Offline
- **Webcasting:** Training, Conventions, Financial
- **Court Reporting:** Serving the Legal Profession

**C. Jeanette Christian** CSR, RPR, RMR, CRR, CBC, CCP  
Founder and President with 20 years of experience  
[Jeanette@2020Captioning.com](mailto:Jeanette@2020Captioning.com)

# Speche Communications

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“Providing scaleable, realtime streaming text services for integration with Internet depositions, webcasts, and CART applications.

“Speche Communications is dedicated to providing realtime access to anyone, anywhere via the internet. Insuring access by all, our scaleable, independent realtime text stream defeats issues relating to firewalls by delivering text in a standard internet format that passes freely through Port 80.

Speche now delivers unrivaled solutions to three distinct realtime applications”

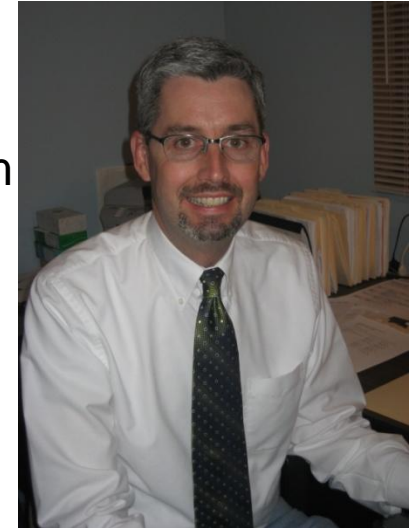
**Live broadcast / webcast events**

**Remote C.A.R.T.** (Computer Assisted Real Time) for the deaf and hard-of-hearing

Try The Alternative...



Philip A. Hyssong, Managing Partner  
Alternative Communication Services, LLC  
P.O. Box 278  
Lombard, IL 60148  
800-335-0911  
Phil@ACSCaptions.com



[www.AlternativeCommunicationServices.com](http://www.AlternativeCommunicationServices.com)

*Where the client AND the employee matter!*



# Resources

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Remote C-Print Captioning Tipsheet:

[http://www.netac.rit.edu/downloads/TPSHT\\_RemoteCprint.pdf](http://www.netac.rit.edu/downloads/TPSHT_RemoteCprint.pdf)

Resources regarding captioning from previous teletrainings

<http://www.pepnet.org>

Information about Typewell captioning

<http://typewell.com/home.html>

Information about C-Print captioning

[http://www.ntid.rit.edu/CPrint/what\\_cprint.php](http://www.ntid.rit.edu/CPrint/what_cprint.php)



- CARTWHEEL MISSION STATEMENT

“CARTWheel is committed to providing a network of highly qualified CART providers to furnish a referral system for clients using voice-to-text technology. Furthermore, CARTWheel's network of CART providers and consumers exists for technical assistance, camaraderie, and business contacts. CARTWheel's guiding principle is communication access with integrity above reproach.”

- <http://www.cartwheel.cc/>

# Captioning cost

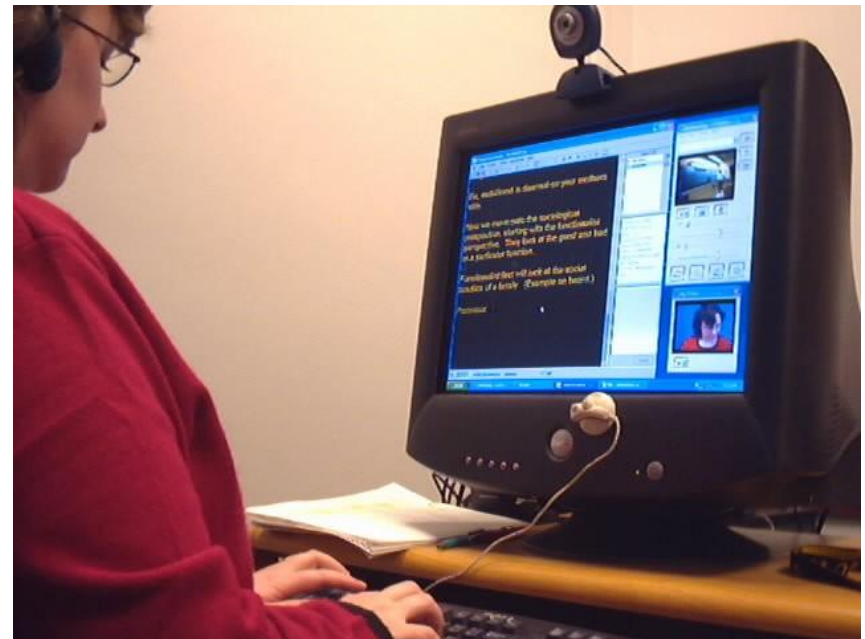
- Costs vary widely
- Remote CART rates can vary from \$75 to \$250 per hour.
- Always ask your Remote CART provider what services are included:
  - prep
  - rough edit
  - script
  - onsite versus remote



# Another Question:

How many of your institutions, schools or agencies purchase remote speech to text services?

Do you provide remote speech to text services?





**On-line and off-line captioning guarantees equal access in the classroom, right?**

***Let's be a deaf student in the classroom for a few minutes***

In media, there are often speakers off-camera that make speech reading impossible.

# There oughta be a law, right?

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***There is!***

Concerning captioned media:

- State Laws i.e. Missouri, Minnesota
- System policies i.e. California  
Community Colleges
- Campus policies i.e. Madison  
Area Technical College



# There oughta be a law, right?

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*There is!*



**ADA**

**504**

# Speech to Text Services

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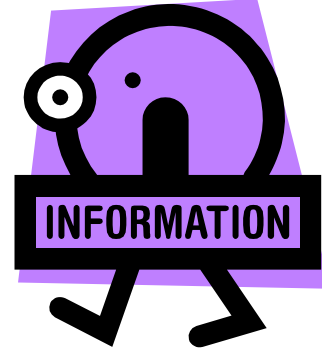


**Speech to Text Services Network**

<http://www.stsn.org/>

# Food for thought:

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1. Remote services *will* be an option
2. Bandwidth, bandwidth, bandwidth – 425 kbps
3. Technology support is a must
4. It's getting easier
5. Students like technology
6. Remote speech to text generally easier than VRI
7. Be open to change.....



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Questions  
or  
comments?

# Contact us!

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- Ann Gronlund  
ann.gronlund@pepnet.org



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Thank you!