



WORLD

Technology News and Commentary for Deaf and Hard of Hearing People

All Is Not Silent On Our Fronts



In-Flight Entertainment Captioning



ENT Captioning



RTT

ENT, Real Time Text, and In-Flight Entertainment Captioning

Starting on page 7

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Reflections on 2015 and Looking
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2015 TDI Holiday Party Photo Gallery
Pages 18 & 19

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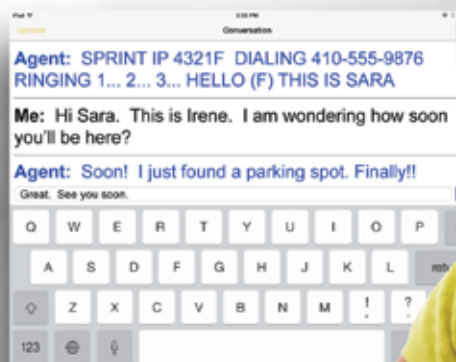
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TDI'S MISSION

“TDI provides leadership in achieving equal access to telecommunications, media, and information technologies for deaf and hard of hearing people.”

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Shaping An Accessible World

Board Views



**SHEILA
CONLON-MENTKOWSKI**

*TDI President and
Western TDI Region-Elected
Board Member*

**“Failure to think
of accessibility
speaks volumes for
their true stance
on accessibility.”**

Reflections on 2015 and Looking Forward to 2016

Up until August, we were planning and working on the biennial TDI Conference and its theme, “TDI and ADA: Leveraging 25 Years of Achieving Access.” The Conference flew by in a flash but highlights were and are still in my mind: the excitement of presenting Chairman Wheeler with the Karen Peltz Strauss Public Policy Award and at the time realizing he towered over me as I gave him his award! And he was so obviously moved emotionally when receiving the award and remarking he is so proud to have it and know the person it is named after. All in all, I am very pleased with the Conference and I hope all the interaction and networking continue in a collaborative manner and effort. We sent out an electronic survey afterward and received mostly positive responses regarding the experience at this conference.

At this time I write, it's nearing the end of 2015, so I want to extend gratitude for the success of the conference to Claude Stout, Don Cullen, Helena Schmitt, Aharon Riolo, the TDI Board members and TDI volunteers. We could not have accomplished this Conference without our TDI team as well as our presenters and sponsors!!! I also want to thank two hard working departing TDI Board members, Fred Weiner and Bernard Hurwitz.

There are two new TDI Board members, Jan Withers from North Carolina representing the Southeastern Region and Cassandra Boryslawj from Connecticut representing the Northeastern Region.

During 2015, Don (our PR person) has been able to double our social media presence, and continues to increase our presence daily. We use Facebook, Twitter, and TDI eNotes to share updates in technology impacting

deaf, hard of hearing, and deaf blind consumers. Do use this opportunity to look us up if you use social media! We were also able to send thousands of copies of our TDI World to our membership which is back on a regular publishing schedule. The Blue Book also came out on time too. I also wanted to extend my gratitude for all your support – your donations to TDI have helped and continue to help TDI achieve much!

In 2016, we will continue to keep up with the fast changing pace and development of technology in various areas, wireless, E-911, captioning in all media, etc. I hope to see more communities or states following the approach San Francisco, the State of Maryland, and Portland, Oregon have adopted in requiring captions be shown in public locations in their respective areas. If your community or state is planning such an action, please do let TDI know by emailing them at pubrel@tdiforaccess.org or by calling them!

Of particular note: 2016 is the US presidential election year, so let's make sure all our candidates caption their televised and Internet advertisements. If they are not captioning their ads, why should we vote for them? Don't they want us to know what their views are? Failure to think of accessibility speaks volumes for their true stance on accessibility. If they do caption, and you like the candidates, see if you can volunteer to help their campaign in some capacity or at the least, send them a note to let them know you appreciate their attention to access via captions for us.

Once more, thank you for all of your support of TDI, and I'm truly excited to see what 2016 has in store for us all!

Happy Holidays!

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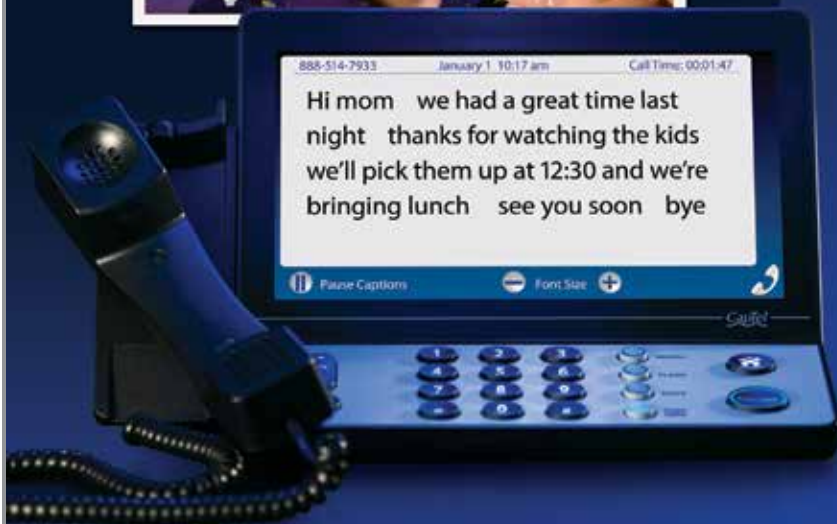
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112015

Capitol Commentary



BY CLAUDE STOUT
TDI Executive Director

“Our work is never done, and we continue to be vigilant in ensuring that you are experiencing your first-class American rights and privileges in telecommunications, media, and information technology.”

Advocacy Efforts from TDI in Washington:

Reflecting on Year 2015 and Making Plans for Year 2016

First of all, thank you very much for joining TDI as members, and sending us contributions during the year 2015. For that, we are deeply grateful, and we will strive to remain worthy of your commitment and support. We will make sure to protect your interests in Washington, D.C. Thank you!

This year in 2015, we have worked with the Federal Communications Commission (FCC), other federal agencies, and industry to make significant progress for your access needs. We have been fortunate to have pro bono legal services from four entities as follows:

- 1.) Morgan Lewis and Bockius, LLC – relay services and TRS Fund,
- 2.) Institute for Public Representation, Georgetown University Law School – oppositions to captioning exemption requests from TV program producers,
- 3.) Samuelson-Glushko Technology Law and Policy Clinic, University of Colorado, Boulder – TV captioning quality and copyright issues, and emergency access, and
- 4.) Squire Patton and Boggs – deployment of Real-Time Text technology. With their unique expertise, TDI and its fellow national consumer advocacy organizations have jointly made a substantial number of filings throughout the year with the FCC and a few other federal agencies. Thanks very much to our legal team!

Here is a selected number of key accomplishments we made in year 2015:

Captioning of Local News Shows

We have notified the FCC that many

of you outside the top 25 television markets continue to be frustrated with level of quality in captioning of local news, weather, and sports shows. We are deeply grateful for over 1,300 of you that participated in the survey on this topic, and we sent the results of the survey to the FCC, and shared the same with National Association of Broadcasters. We have asked that the rest of the TV stations that are not in the top 25 markets transition from doing electronic news room technique to real-time technique in captioning of their local news, weather, and sports shows within a phase-in period, – optimally during the next ten years.

Text-to-9-1-1

As of December 16, 2015, over 512 local jurisdictions across America (about 8 percent of a total of 6,800 public safety answering points (PSAPs)) can accept and process text-to-9-1-1 emergency calls. It is important that 9-1-1 centers understand that many of us do not have TTYs, and that we have resorted to using other technologies to reach them on an emergency directly or via relay. We encourage you to contact your local (or commonly referred to as “most appropriate”) 9-1-1 call center and see if they are able to accept your emergency call via text. If they are not ready to do that, ask them when they plan to do so, and let them know that they can contact your wireless service provider – AT&T, Verizon, Sprint, or T-Mobile USA to provide support for this capability.

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CAPITOL COMMENTARY Continued from page 4

Making Text Calls Over the IP-Networks

We have worked with AT&T and Verizon to get waivers from the Commission to test and then deploy the technical means so that you can use TTYs or another text alternative to make real-time text calls over the Internet Protocol wireless networks. You will get updates from your wireless provider on this topic within the next year or two.

FCC's New Open Source Platform

At our Biennial Conference in Baltimore last August, FCC Chairman Tom Wheeler announced a new initiative with the Commission called "Access Communication for Everyone" (ACE), which is a new open source platform, using standards-based applications, that works on mobile and desktop operating systems. FCC asserts this would make your calling experience much improved, whether you do direct communication via text, video, or data, or any one form of relay service, such as VRS, IP-CTS, or IP-Relay. You will be able to switch at much ease from one provider for any form of relay to another in a more interoperable mechanism. Not only that, other federal agencies and major corporations are encouraged to set up their own call centers to receive direct video calls from their deaf and hard of hearing customers that use sign language. This will give some of us choices to make or receive calls directly or via relay with these entities.

Deaf and Hard of Hearing Consumer Advocacy Network (DHHGAN):

TDI remains very active with the Deaf and Hard of Hearing Consumer Advocacy Network. Cheryl Heppner, its Vice Chair and ALDA representative, recently retired from her position as Executive Director with Northern Virginia Resource Center

for Deaf and Hard of Hearing Persons. Andrew Phillips left his position as Policy Counsel with National Association of the Deaf last June. We have replaced them with Edgar Palmer as the new Vice Chair, and Zainab Alkebsi, as the new Secretary. Tom Dowling remains as the treasurer with the coalition.

Disability Advisory Committee, FCC

FCC had established a new advisory panel, which it formally recognizes as its Disability Advisory Committee (DAC). It has over forty members from industry, government, and consumer organizations in America that serve the deaf and hard of hearing population. They had its inaugural meeting on March 16, and then followed up with two more, one on June 23, and another on October 8. The DAC has five subcommittees (relay and equipment distribution, technology transitions, video programming access, emergency access, and advanced communication services) that meet regularly to discuss key topics, and to propose actionable items for the full Committee to recommend to the Commission for formal action.

National Deaf-Blind Equipment Distribution Program (NDBEDP)

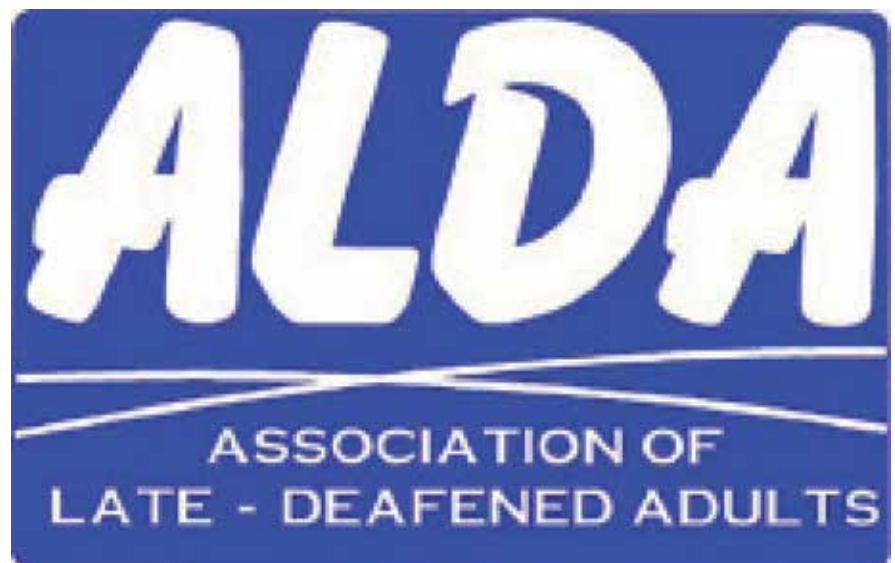
Thanks to the success of the two-year pilot project, we consumer groups gave full support for the FCC to make permanent the National Deaf-Blind Equipment Distribution Program. The Perkins School has done a commendable job in managing this national program with its website, called "I Can Connect." Its web address is: <http://www.icanconnect.org>. Last summer, the FCC made the decision as official.

We can only rest briefly during the holidays and reflect favorably on the good work we produced in 2015. In 2016, we will then hit the ground running, and among the priorities we seek to achieve:

Video Relay Service (VRS)

TDI and other consumer groups will meet with FCC officials encouraging them to initiate as soon as possible a number of measures that enhance the functional equivalence of Video Relay Service (VRS), such as speed-of-answer, certified deaf interpreters

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CAPITOL COMMENTARY Continued from page 5

(CDIs), and skills based routing trials. Those who use VRS will experience a much shorter dial tone within 45 seconds with at least 80 percent of the calls they make or receive via video. Some of us will ask for deaf interpreters to work with their hearing counterparts, so that we can easily comprehend the content of the call and to participate fully in the phone conversation. We look forward to a time when we can ask specifically in VRS for an interpreter with a certain skill set to call a doctor about a medical issue, or to discuss a criminal/civil case with a lawyer.

Hearing Aid Compatibility

TDI will be collaborating with Hearing Loss Association of America (HLAA) and Telecommunications Industry Association (TIA) toward building a better future in that within 10 years, some of us can shop via a local retail shop or online and go over a full selection of hearing aid compatible phones before we each make a choice of a phone for our communication needs. Equally important, some of us –who lose hearing late in life, are likely not to have to switch to buying new phones, rather we will just resort to using features that are already included in the phones we have.

Outreach in TRS

TDI and a few other organizations will work with a federally funded research and development center (FFRDC) called MITRE Corporation on outreach in TRS. One of the few main goals will be to ensure that your hearing contacts in your family, the workplace, and the rest of the local community, understand better and find it more convenient to make or receive calls with you via relay. Relay service is not just for deaf and hard

of hearing people. Hearing people depend on it just the same, after all they are the ones on the other side of the relay call.

Providing Input to the Republican and Democratic Presidential Campaigns:

this coming November, we will be electing a new U.S. President. In the next ten months, TDI will work with other member organizations under DHHCAN to provide both campaigns some material with recommendations on high priority access issues and needs for the nation's deaf and hard of hearing population. We will also ask both campaigns to caption their political advertisements for TV and the Internet, and also to provide interpreting and CART services at appearances and rallies, upon request.

In-Flight Entertainment

TDI has been invited to take part early in the New Year in the process with the U.S. Department of Transportation to explore the feasibility of a negotiated rule making addressing a range of issues involving access of the disabled to commercial aircraft. We will be giving advice regarding accessible in-flight entertainment, in other words – getting access to captioning of airline provided movies while we are airborne.

The Internet of Things

Today we are not just using the desktop computers to process office work or to surf the Internet. We can use any device with an on and off switch to the Internet (and/or to each other). This includes everything from cell phones, coffee makers, washing machines, headphones, lamps, wearable devices and almost anything else you can think of. Say for example, you are on your way to a meeting, your car could have access to your calendar and already know the best route to take, if the traffic is heavy

your car might send a text to the other party notifying them that you will be late. What if your alarm clock wakes up you at 6 am and then notifies your coffee maker to start brewing coffee for you? While these devices may be beneficial for our use every day, and enhance our productivity at home, in the workplace, and in other scenarios, we must ensure that the devices are fully accessible for us.

TV Captioning Quality

TDI sincerely hopes the FCC will address our 2004 and 2009 petitions to remove current exemptions from its TV captioning regulations, such as TV programs that are on the air between 2:00 a.m. to 6:00 a.m., as well as advertisements, public service announcements, and interstitials, etc.

Data Caps

TDI continues to monitor developments in this area with the players in the industry. We will make sure that we are charged fairly for bandwidth use when we make video calls, either direct-to-direct, or VRS. We must make sure we pay equitable cost for a proportional use of broadband for video as if we process voice/data calls/messages. We should not be penalized for using video largely when we cannot use voice/data for some certain functions.

The list-to-do for the year 2016 is not cast in stone. There will be a few more areas we will assume work for as the year goes on. As you can see, there is some work cut out for us in the new year. TDI has strived to advocate well for deaf and hard of hearing Americans, now 48 million, for almost 47 years. Our work is never done, and we continue to be vigilant in ensuring that you are experiencing your first-class American rights and privileges in telecommunications, media, and information technology.

All Is Not Silent On Our Fronts

ENT, Real Time Text, and In-Flight Entertainment Captioning

BY DON CULLEN, MANAGING EDITOR, TDI WORLD

2016 RIPE FOR CHANGE!

ELECTRONIC NEWSROOM TECHNIQUE CAPTIONING

The Electronic Newsroom Technique (ENT), a method used for captioning television news broadcasts in local areas, creates captions from a news script via computer or teleprompter and is commonly used for live newscasts. Only material that is scripted can be captioned using this technique; therefore, live field reports, breaking news, and sports and weather updates may not necessarily be wholly and accurately captioned. Due to these limitations, the Federal Communications Commission (FCC) decided to restrict the use of electronic newsroom captioning as a substitute for real-time captioning. FCC determined that, beginning January 1, 2000, the four major national broadcast networks (ABC, CBS, Fox and NBC) and television stations in the top 25 television markets (as defined by Nielsen in below list) that are affiliated with these networks will not be permitted to count electronic newsroom captioned programming towards compliance with their captioning requirements.

FCC also determined that, beginning January 1, 2000, the four major national broadcast networks (ABC, CBS, Fox and NBC) and television stations in the top 25 television markets (as defined by Nielsen) that are affiliated with these networks will not be permitted to

count electronic newsroom captioned programming towards compliance with their captioning requirements. The top 25 television markets are the largest cities and their surrounding areas in the USA.

This rule restricting the use of electronic newsroom captioning also applies to national non-broadcast networks (such

households would not be permitted to count electronic newsroom captioned programming towards the captioning requirements. The question posed by FCC during the transition period was to consider how and when this rule should be extended to other video program providers.

Of particular interest to broadcasters



Example of erroneous ENT captioning; via TVTechnology.com - 2/25/2010

as CNN, HBO and other networks transmitting programs over cable or through satellite services) serving at least 50% of the total number of households that subscribe to video programming services. For instance, if the combined national subscribership of all multichannel video programming providers (e.g., cable, satellite services, wireless cable) were 80,000,000 households, then any non-broadcast network that serves 40,000,000 or more

producing local news in small and medium markets is whether ENT use survives. Initially, in response to concerns expressed by consumer groups about significant gaps in news content captioned using ENT, FCC was considering the near-term phase out of ENT in favor of real-time captioning. Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI) has been heavily invested in this ongoing

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dialogue.

To the broadcasters, “Enhanced ENT” represents a workable compromise that improves access while preserving local news in small and medium markets. The broadcasters have argued that real-time captioning of live-programming is subject to human error and is commonly less accurate and complete than ENT captions derived from scripts. Broadcasters also cited significant latency problems with real-time captioning, whereas ENT captions are better synced with the audio of news programming. To this end, the National Association of Broadcasters met with TDI and other consumer organizations to work together to find a common solution, and to determine whether ENT was at the very least a viable solution for captioning.

In TDI’s (along with organizations such as National Association of the Deaf (NAD), Hearing Loss Association of America (HLAA), Technology Access Program at Gallaudet University (TAP) signing on) filing with FCC (Docket # 05-231) dated November 13, 2015, TDI referenced the ENT Report by the broadcasters and the associated Consumer Survey that was undertaken by consumer organizations when arguing that the report and survey results support the stance that ENT has much work ahead of it before it could even remotely be considered as a viable solution in lieu of real-time captioning:

“The results of the above-referenced ENT Report and associated Consumer Survey do not suggest a departure from what deaf and hard of hearing consumers have long proposed: that the Commission should phase out the use of ENT in markets outside the top 25 in favor of high quality real-time captioning, requiring broadcasters and other ENT users to submit ongoing progress reports over the transition period. Overwhelming and substantial

Local Television Market Universe Estimates

Designated Market Area (DMA)

Ranked by Households – Top 25

Rank	Designated Market Area (DMA)	TV Homes	% of US
1	New York	7,368,320	6.503
2	Los Angeles	5,489,810	4.845
3	Chicago	3,475,220	3.067
4	Philadelphia	2,917,920	2.575
5	Dallas-Ft. Worth	2,646,370	2.335
6	San Francisco-Oak-San Jose	2,484,690	2.193
7	Washington, D.C. (Hagerstown)	2,443,640	2.156
8	Boston (Manchester)	2,411,250	2.128
9	Atlanta	2,385,730	2.105
10	Houston	2,373,700	2.095
11	Tampa-St. Pete (Sarasota)	1,859,820	1.641
12	Phoenix (Prescott)	1,848,850	1.632
13	Detroit	1,828,230	1.613
14	Seattle-Tacoma	1,766,070	1.559
15	Minneapolis-St. Paul	1,723,210	1.521
16	Miami-Ft. Lauderdale	1,660,020	1.465
17	Denver	1,576,090	1.391
18	Cleveland-Akron (Canton)	1,493,160	1.318
19	Orlando-Daytona Bch-Melbrn	1,489,710	1.315
20	Sacramento-Stockton-Modesto	1,349,990	1.191
21	St. Louis	1,217,370	1.074
22	Charlotte	1,168,610	1.031
23	Pittsburgh	1,154,550	1.019
24	Portland, OR	1,136,320	1.003
25	Raleigh-Durham (Fayetteville)	1,131,460	.999
NSI TOP 25 TOTAL US TV HOUSEHOLDS		56,400,110	49.774

Source: Nielsen Media Research, Inc.

From: <http://www.tvb.org/media/file/2015-2016-dma-ranks.pdf>

Copyright © 2016 The Nielsen Company All rights Reserved Nielsen Station Index (NSI)

Local Television Market Universe Estimates

**Estimates as of January 1, 2016 & used throughout the 2015-2016 television season and are effective September 26, 2015*

problems remain with the quality of ENT captions. These problems violate the Commission’s caption quality standards, and the continued use of ENT denies the civil right of Americans who are deaf or hard of hearing to access news programming on full and equal terms.

Moreover, there is no evidence that ‘enhanced’ ENT procedures implemented over the past year have yielded meaningful improvements.

In particular, weather and sports programming, breaking news and live coverage, and anchor banter remain inaccessible for many. These problems have spilled over to the provision of emergency programming, where substantial accessibility problems unduly endanger the lives of Americans who are deaf or hard of hearing.

The issues the NAB raises with a transition to real-time captioning pale

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ENT CAPTIONING Continued from page 8

in comparison to the significant problems that remain with ENT. While NAB notes quality problems with real-time captioning, the appropriate response is to address those problems head-on by requiring functional standards for high-quality real-time captions, not to continue allowing the use of ENT captions with substantial quality problems of their own. The Report's lack of specific information on the burden of real-time to stations precludes continuing a categorical allowance of ENT in markets outside the top 25, and the scarcity and expense issues NAB raises likely would be exacerbated, not helped, by the continued allowance of ENT.

Nevertheless, we agree with NAB that educational efforts and continuing dialogue may prove beneficial in the transition from ENT to real-time captions. Finally, data gathered in the Report suggests issues with consumer complaints that the Commission should address." (1)

At the outset, TDI and others appreciated the spirit of collaboration in which NAB approached the development of the surveys and other information that form the basis for the ENT Report. TDI agreed with NAB that the report and consumer survey should not mark the end of the dialogue between broadcasters and consumers, that ongoing cooperation between NAB, the Consumer Groups, and TAP should remain an important part of FCC's approach to closed captioning policy for local news programming. That was far as the agreement extended though.

The consumer organizations involved in the above filing disagreed with the conclusion by NAB that FCC should permit the continued use of ENT. ENT continues to fall short of the high standard of equal access required of closed captioning methods. No evidence has been demonstrated that the "enhanced" procedures adopted in 2014 effectively addressed ENT's shortcomings. Because the countervailing concerns raised by NAB about quality, cost, and scarcity are unavailing, the consumer organizations in the filing urged FCC to proceed with phasing out ENT in markets outside the top 25 in favor of a real-time captioning requirement.

The deliberations between TDI, consumer organizations, TAP, NAB, and FCC are still ongoing –as to whether ENT should be continued, or dropped in favor of a real-time captioning solution. The final results of those deliberations have serious ramifications, as it can serve as a model for

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Consumer Survey Summary

As part of our efforts to contribute to the report, Consumer Groups and TAP developed an online survey in consultation with NAB over the summer months of 2015. After Consumer Groups and NAB arrived at consensus on the questions in the survey, the Consumer Groups circulated the survey to their members via a variety of in-person and electronic means. The survey closed on Sept. 4, 2015.

We started by filtering our results down to the 532 survey-takers who affirmed they were in zip codes eligible where ENT usage is permissible under Rule 79.1(e)(3).

• 531 of those 532 survey-takers answered "Yes" to the question "Do you ever watch local broadcast television news programming (i.e., ABC, CBS, FOX, NBC, CW, PBS, Univision, and Telemundo) from local television stations with closed captions turned on?" We filtered out the one survey-taker who answered "No".

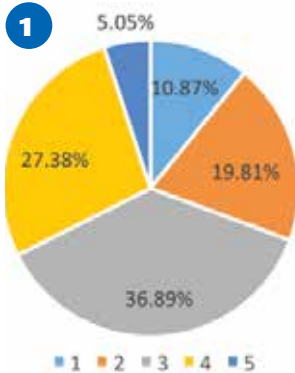
• Asked "Do you know if the stations you watch for local broadcast television news programming generally use the Electronic Newsroom Technique (ENT) for captions or live captioning?", the majority of survey takers answered "Yes" (94) or "Don't know" (421). We filtered the few who answered "No" (16) out.

Accounting for all these filters, the subsequent answers include the 515 survey takers from ENT-permissible markets who do watch local news with captions and either affirmed that their local stations used ENT or didn't know if they did.

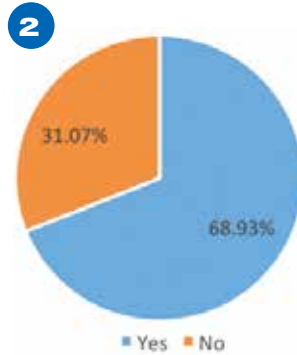
"Please select all of the captioning problems on local broadcast television news programs that you have experienced.", survey takers responded:

	YES	NO
Misspelled words	61%	39%
Incomplete sentences	59%	41%
Phrases that are obviously missing words	52%	48%
Phrases that are obviously incomplete or don't include everything that is being said	64%	36%
Missing captions—e.g., where a newscaster is obviously talking but no words appear	71%	29%
Missing captions right before the commercial break	53%	47%

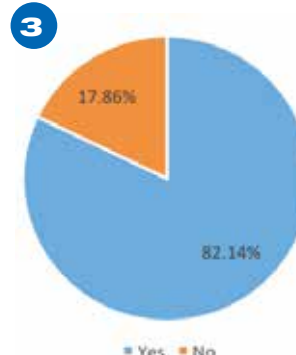
(1): "Reply to National Association of Broadcasters ENT Progress Report", filed 11/13/2015 (CG Docket No. 05-231) — <http://apps.fcc.gov/ecfs/comment/view?id=60001309321>



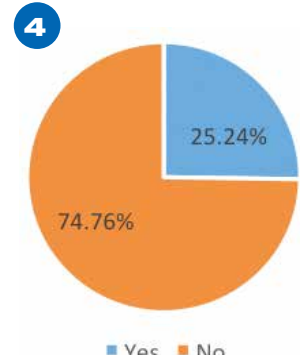
On a scale of 1-5, how accurate are the captions on the local broadcast television news programming you watch on those stations (1 = very inaccurate, 5 = very accurate)?



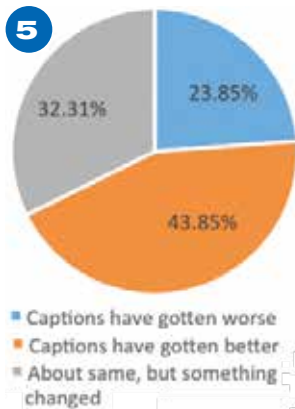
Do you think the quality of the captions for local broadcast television news programs you watch is as good as captions on other programs you watch?



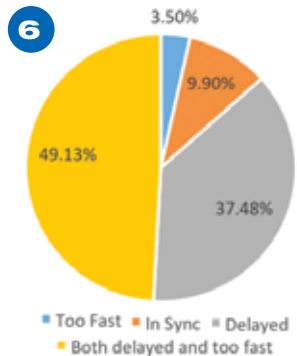
Do you experience captioning problems on local broadcast television news programs?



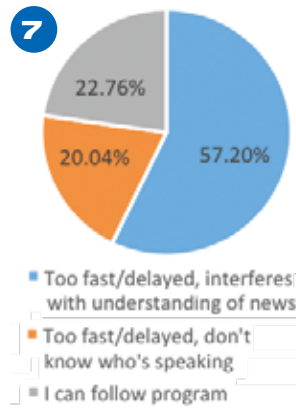
Have you noticed any changes over the past year with caption accuracy in local broadcast television news programming?



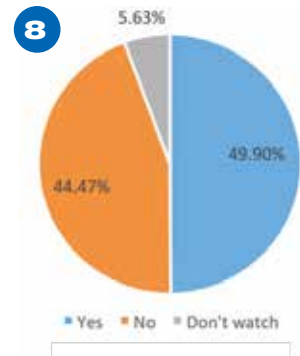
The 25.24% who responded "Yes" to question 4 were asked "How has caption accuracy changed?"



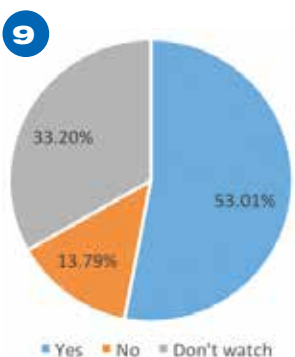
Do you think captions for the local broadcast television news programming you watch are generally synchronized with the words being spoken, or are the captions delayed, too fast, or both?



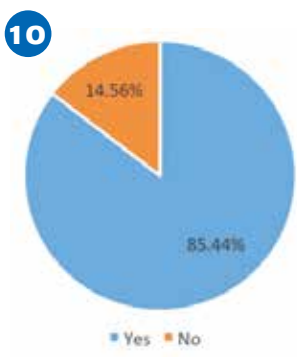
The 90.10% of respondents who responded to question 6 with something other than "In sync" were asked to "please choose the sentence that closely matches your experience,"



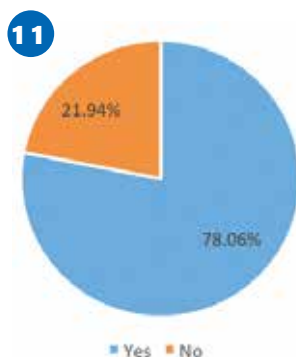
Is the weather segment of the local broadcast television news programs you watch captioned?



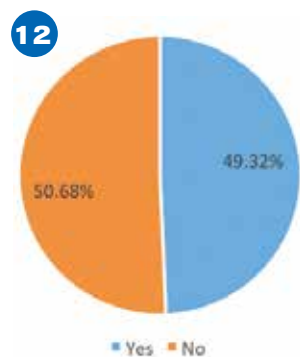
Do the captions ever stop during breaking news reports or live coverage of events during the local broadcast television news?



Do captions ever cover up text or graphics on the screen? If so, does it impair your understanding of the local broadcast television programming?



"Do you ever encounter problems with captions during emergency local broadcast television news programming?"



"Have you filed a complaint with your local station or the Federal Communications Commission regarding local TV news captioning?"

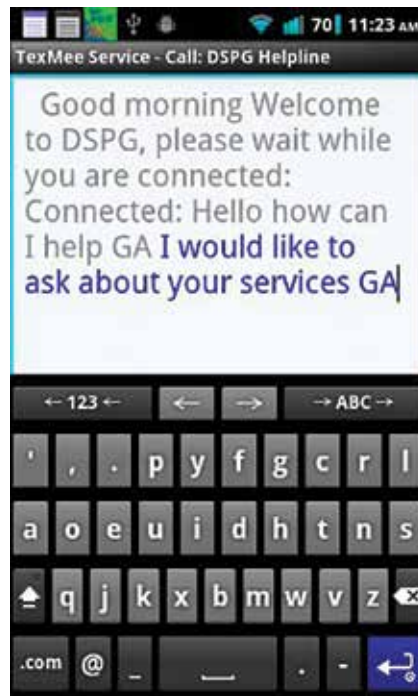
FCC for future considerations on the rest of the media industry that relies on ENT to provide captioning. Due to those potential ramifications, TDI continues to be very much invested in the ongoing deliberations, and will keep TDI members posted on our efforts in this regard.

REAL-TIME TEXT

Obsolete TDD/TTY devices are being replaced by more modern real-time text technologies, including IP-relay and instant messaging. Real-time means that something occurs within a fraction of a second. For example, a voice conversation between two or more people happens in real-time. The audio is sent and received immediately by the people. Real-time text (RTT) is text transmitted instantly as it is typed or created. Recipients can immediately read the message while it is being written, without waiting. Real-time text is used for conversational text and in live captioning. Technologies include TDD/TTY devices for the deaf, live captioning for TV, a feature enhancement in instant messaging, captioning for telephone/video teleconferencing, telecommunications relay services including IP-Relay, transcription services including remote CART, collaborative text editing, streaming text applications, and next-generation 9-1-1 emergency service.

Real-time text is frequently used by the deaf, including in IP-Relay services and TDD/TTY devices. Real-time text allows the other person to read immediately, without waiting for the sender to finish composing his or her sentence/message. This allows conversational use of text, much like a hearing person can listen to someone speaking in real-time.

Real-Time Text is of particular importance for people who are Deaf or Hard of Hearing as a replacement for voice telephony (not a complementary technology). However, it is expected that Real-Time Text will be adopted by



Shown above: TTY-style method, requiring turn-by-turn text communication – RTT is intended to replace this by no longer requiring to wait for your turn to type. As soon as you start typing, the other person will see your text in real time.

mainstream users as well. In particular, it is a natural extension for other real-time, conversational services such as voice telephony, e.g., for use in noisy environments, when you want to communicate during a meeting when voice is not appropriate. It is also very useful for conveying information where exact spelling is important during a voice call, e.g. booking numbers, street addresses, words that are hard to perceive because of different dialects etc.

In addition to its many applications for hearing people, Real-Time Text is important as an equivalent alternative to voice communications for people who are deaf and hard of hearing. It allows a more natural, bi-directional flow of text based conversation to take place compared with the “type-enter-wait-read-response-reply” technology of IM (chat) and SMS.

On December 17, 2015, a report was

issued that described a field trial performed by the Rehabilitation Engineering Research Center on Telecommunication Access partners (which included Gallaudet University Technology Access Program, Trace Center at the University of Wisconsin-Madison, and Omnicor corporation) in which 49 participants (people who were deaf, hard of hearing, and hearing/relatives of those who were deaf/hard of hearing) in where three different technologies were tested (including TTYs and RTT). The section below summarizes the findings:

One of the main components of this report is a field trial on the interoperability of real-time text in three different calling environments: TTY on PSTN, RFC 4103 on SIP, and experimental RTT on WebRTC.

The field trial was performed in 2015 by the Rehabilitation Engineering Research Center on Telecommunication Access (RERC-TA) partners in Sweden and the United States. 49 participants were involved including people who were deaf, people who were hard of hearing, and hearing friends and relatives of the deaf or hard-of-hearing participants. Participants made RTT-only and RTT+voice calls across these three environments.

Key findings are:

- Participants reported high satisfaction scores on the tested RTT technology.
- Among those participants who tested RTT+voice, a majority deemed this feature to be important.
- Participants preferred sending and receiving real-time text over IM-style turn-based text
- Participants preferred being able to type at the same time as their partners.

Continued on page 12

REAL TIME TEXT Continued from page 11

- Participants overwhelmingly judged interoperability across TTY and RTT, and interoperability across different calling environments, to be critical.
- Participants most frequently asked for these additional features, not covered in the trial:
- Addition of video to the conversation.
- Better mobility through implementation of RTT solution on smartphones.
- Alerting devices for accessible indication of incoming calls.
- More control over fonts, colors, etc.
- Improved text conversation

handling by splitting up long text from TTYs.

The findings of this trial are consistent with what reported in earlier research, which are reviewed in this report. The current state of RTT standards and how the findings relate to these standards are also discussed.

The main conclusion from the field trial is that RTT is preferred over messaging for conversational situations. The main conclusion from the standards discussion is that RFC 4103 is the most widely cited standard for RTT, and should be used in SIP and IMS technologies. For environments where RFC 4103 does not fit, conversion to RFC 4103 should be supported wherever they interface with SIP or IMS.

RTT is the technology that AT&T and Verizon are working on to ultimately replace TTYS as a natural successor.

AT&T asked for and received a temporary waiver from the FCC's TTY rules in order to offer Wi-Fi calling on certain devices. AT&T argued to the commission that approving its waiver would signal to the industry that RTT is a permissible alternative to TTY and that it better serves the needs of disabled communities. FCC granted Verizon a waiver similar to the one it gave AT&T but stipulated that Verizon needed to provide more specificity about its plans for meeting its commitment to develop and deploy RTT or an alternative text-based solution accessible and interoperable with other carriers' solutions and with backward compatibility with TTY.

TDI looks forward to the continued evolution of RTTs, and sincerely hopes it will live up to its growing reputation as a viable successor for TTY-type technology. We will continue to monitor activities pertaining to RTT



Contribution Form



☐ \$25 ☐ \$50 ☐ \$100 ☐ \$200 ☐ Other \$ _____

Name _____

Mailing Address _____

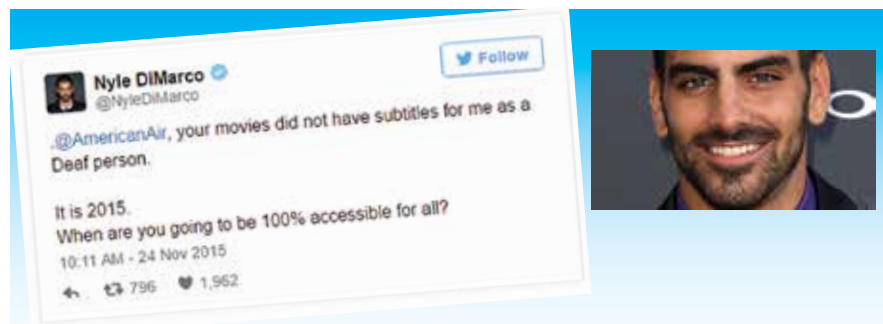
____ Sign me up for the free *TDI* eNotes at this email address _____

____ If donation is in honor or memory of an individual, please give name, address and any special instructions.

____ I want my donation to be anonymous.

***Mail or fax this contribution form (photocopies OK)
payment (check, money order or credit card information) to the TDI office:***

**TDI - 8630 Fenton Street, Suite 121, Silver Spring, MD 20910-3803
Video: 301-563-9112 • TTY: 888-202-1120 • FAX: 301-589-3797 • Phone: 301-589-3786
info@TDIforAccess.org • www.TDIforAccess.org**



Nyle DiMarco, an American actor and model who is the first and only deaf contestant to appear on America's Next Top Model, a popular TV show recently dropped a bombshell on Twitter, a popular online social media service, about American Airlines' refusal to provide 100% closed captioning for in-flight media.

IN-FLIGHT ENTERTAINMENT CAPTIONING

American Airlines responded in three different tweets to Nyle. Those tweets combined are below:

"We have a limited number of close captioned movies for customers with a hearing disability. Currently, we do not show closed-captioned TV viewing as a standard feature. The fact that close-captioned writing on small screen may cover the monitors."

The deaf and hard of hearing community weighed in expressing with our members.

their outrage at American Airline's response. American Airlines backpedaled and released the following statement on Twitter: "We're sorry for our initial response. Thanks for bringing these concerns to our attention and we're reviewing further."

Communication Service of the Deaf (CSD), based in Austin, TX posted a quick Twitter poll that asked "Should airlines provide captions on all in-flight videos?" A resounding 95% voted in support of airlines providing captioning on all in-flight videos.

A joint filing (Docket No. DOT-

OST-2015-0246) was issued by National Association of the Deaf (NAD), Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI), California Coalition of Agencies Serving the Deaf and Hard of Hearing (CCASDHH), Association of Late- Deafened Adults, Inc. (ALDA), Cerebral Palsy and Deaf Organization (CPADO), Deaf Seniors of America (DSA), Hearing Loss Association of America (HLAA), and Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing at Gallaudet University (DHH-RERC) on January 21, 2016, in response to the Department of Transportation's (DOT) Notice of Intent for a Consideration of Negotiated Rulemaking ("Reg Neg") Process on the matter of nondiscrimination on the basis of disability in air travel. Negotiated rulemaking is a process in American administrative law, used by federal agencies, in which representatives from a government agency and affected interest groups negotiate the terms of a proposed administrative rule. The Department of Transportation hopes that by

Continued on page 14

More ways to say "I love you."

If you, or a loved one, is Deaf, hard of hearing, Deaf-Blind, or have difficulty speaking, Maryland Relay offers many calling options to keep you connected by phone.

Plus! You may qualify for a free TTY, VCO phone, Captioned Telephone* or other assistive device through the Maryland Accessible Telecommunications program. Free training may be available upon request.

Just dial 7-1-1 to make a Relay call.

Visit mdrelay.org or like us on Facebook to learn more.

Calling Options

- TTY (Text Telephone)
- Voice Carry-Over
- Hearing Carry-Over
- Speech-to-Speech
- Captioned Telephone*
- Spanish Relay

301 W. Preston Street, Suite 1008A
Baltimore, MD 21201
800-552-7724 (Voice/TTY)
443-453-5970 (VP)



*Available to qualified applicants

IN FLIGHT CAPTIONING continued from page 13

establishing a “reg neg,” regulations will be put into effect that are mutually acceptable for both the consumers and the industry.

TDI Executive Director Claude Stout has been in touch with Mr. Richard Parker, the Department of Transportation’s mediator for this special proceeding.

In this Notice of Intent, the DOT indicated it is exploring whether a Reg Neg would be feasible in resolving a number of accessibility issues for air travel. Among these issues is whether the Reg Neg would be helpful to “ensure that the same in-flight entertainment (IFE) available to all passengers is accessible to passengers with disabilities.”

The filing aptly provided a brief summary of the background leading up to today:

On October 2nd, 1986, President Ronald Reagan signed the Air Carrier Access Act (ACAA) into law which prohibited discrimination in services for passengers with disabilities by commercial airlines. Since then, for 30 years, the DOT has endeavored to support the rights of people with disabilities via the ACAA. However, many parts of air travel to this day remain largely inaccessible for people with disabilities as well as for deaf and hard of hearing passengers. Unfortunately, there has been absolutely no regulatory progress on mandating accessible IFE.

The DOT has not engaged in any meaningful regulation to require airlines to provide captioned IFE. Instead, ten years ago, on February 23, 2006, the DOT published a Notice of Proposed Rule-Making (NPRM) with respect to the needs of air travelers who are deaf, hard of hearing or deafblind, including the captioning of IFE. According to the DOT’s Final Rule, this NPRM on deaf



Photo of captioned video on a plane operated by Emirates Airlines

and hard of hearing people garnered 700 comments. Regardless, the DOT chose not to mandate captioning on IFE, stating that it “cannot conclude on the basis of the comments that providing high-contrast captioning for entertainment displays is technically and economically feasible now, nor can we ascertain a date by which it most likely will be.”

The Consumer Groups have been seeking captioning on IFE for decades and were extremely disappointed with the DOT’s inaction in 2006. The DOT’s Final Rule in 2008 was equally disappointing. Basing its response on the comments from the airline industry and WGBH National Center for Accessible Media, the DOT “reluctantly concluded... that [it] cannot adopt a regulation governing entertainment displays at this time.” Although the DOT asserted the ACAA’s scope encompassed in-flight entertainment and granted the DOT authority to regulate such entertainment, “the record in this proceeding does not provide a basis for adopting a captioning requirement for IFE at present.”

Another section from the filing also served well to illustrate why the time is ripe to push for IFE captioning:

It is our hope that the DOT will recognize that the time has come to rectify this failure to mandate captioned IFE. In this age of smartphones, tablets, and laptops, high-contrast captioning is technically and economically feasible on all forms of displays right now, and no further delay is needed. Moreover, captioning is now ubiquitous on nearly every form of Internet video streaming service, which further proves that it is technically and economically feasible to achieve captioned IFE on all airlines. All of these Internet video streaming services are now 100% captioned and nearly every movie shown in a movie theater is also captioned. The fact that all those video content have captioning available means that airlines can no longer argue that the video content they seek to show on IFE do not have caption files. In fact, some airlines are already providing captioning, as testament to the feasibility of captioned IFE. [...]

IN FLIGHT CAPTIONING continued from page 14

Furthermore, the Reg Neg should take into account the fact that at least some components of IFE are subject to overlapping accessibility obligations under the Federal Communications Commission (FCC)'s rules. To wit, a considerable amount of the programming and devices should already be captioned and caption-capable under the FCC's rules. Accordingly, we encourage the DOT to collaborate with the FCC as part of the Reg Neg.

While dated, but very much relevant to this developing situation, U.S. Senator Harkin commented in the past saying "I have been trying for some time to get the airlines to provide closed captions on the movies on their airplanes. I can't understand why they don't do it. It doesn't cost anything," after the Senate Appropriations Committee voted to send the measure to the full of the floor Senate.

The group that lobbies for airlines in Washington told The Hill that the industry's opposition to closed captioning in-flight movies was being overstated by Harkin. "As onboard entertainment technology is rapidly changing, airlines will continue working collaboratively with DOT, and all stakeholders to further enhance the travel experience for our customers," Airlines for America spokesman Vaughn Jennings stated on the matter.

Several people said they had cancelled their American Airlines ticket as a result of how American Airlines handled the situation. It's a safe bet to say that this situation has cost American Airlines thousands in revenue — a drop in the bucket, to be sure, in face of \$1.9 billion dollars in profit from 2014 — but if nothing else, it certainly was making a statement and got the airline's attention, along with the public.

National Association of the Deaf (NAD), and Gogo LLC, the global

leader in providing broadband connectivity solutions and wireless entertainment to the aviation industry, have reached an agreement for Gogo to make closed captioning available for 100 percent of programming content sourced by Gogo and streamed through its on-demand in-flight entertainment service, Gogo Vision. While this appears to only be applicable to videos accessed via personal devices owned by the consumer, it is certainly progress, and is to be commended.

This is the first agreement of its kind with an in-flight entertainment company, and is the result of the parties' mutual intent to increase access for people who are deaf and hard of hearing to movies and television that are viewed in flight on U.S. domestic flights. Passengers using their own personal Wi-Fi enabled devices can access a Gogo Vision server located on aircraft of certain airlines that contain an extensive library of movies and television shows. While Gogo is offering this technology, it is up to the airlines to make it available to fliers.

12 airlines partner with Gogo to provide in-flight Wi-Fi, including Aeromexico, American Airlines, Air Canada, AirTran Airways (recently merged into Southwest), Alaska Airlines, Delta Air Lines, Japan Airlines, United Airlines, US Airways (a subsidiary of American Airlines), Vietnam Airlines, Virgin America and Virgin Atlantic.

Under the agreement, Gogo has now added technology that will enable customers to have the option to display closed captions for content with closed captions sourced by Gogo; Gogo has also begun sourcing new content with closed captions where available; and Gogo will replace all of its existing sourced content with content that has closed captions through a phase-in process that will be completed by June 30, 2017. All captions will be consistent with

Federal Communications Commission standards for completeness, accuracy, synchronicity, and placement.

"We are excited to offer Gogo Vision's entire library of movies and TV sourced by Gogo to passengers who are deaf and hard of hearing," said Ash ElDifrawi, Gogo's chief commercial officer. "Watching movies on a passenger's own device has become a very popular product for Gogo and we are excited to provide access to this product to the deaf and hard of hearing."

The in-flight entertainment accessibility issue is being mediated between the DOT, the airlines, and consumer organizations. This process will determine whether to add to U.S. Department of Transportation regulations additional disability accommodations, including in-flight entertainment captioning and the best way to go about it. Current regulations have recently been amended to require all airports to ensure all their televisions have closed captioning activated (not including TVs outside the facilities, such as airplanes). The regulations would include new requirements on the airlines to make their in-flight entertainment capability on their planes accessible to people with disabilities, particularly those who are deaf and hard of hearing. Via Aberdeen website:

Amended regulations

In September of 2011, the U.S. Department of Transportation issued a notice of proposed rulemaking in Docket OST 2011-0182 titled, "Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance (U.S. Airports)." The DOT issued this final rule to amend section 504 of the Rehabilitation Act of 1973, which requires accessibility in airport terminal facilities.

IN FLIGHT CAPTIONING continued from page 15

The ruling states:

"...airport operators will be required to enable or ensure high-contrast captioning at all times on televisions and other audio-visual displays capable of displaying captions located in any gate area, ticketing area, first-class or other passenger lounge provided by a U.S. or foreign carrier, or any common area of the terminal to which passengers have access."

This will also apply to other audio-visual displays located in any space leased by a retailer or restaurant.

Airport operators will now be obligated to ensure that the proprietor enables the captioning feature on their displays in a manner that satisfies this requirement.

Additionally, this ruling states that airports shall ensure the availability of mechanical lifts to provide level-entry boarding for passengers with mobility impairments flying on small commuter aircraft. Airport operators must also provide suitable facilities for service animals.

After 4 years, this ruling just went into effect yesterday, October 5, 2015, and will apply to airport facilities located in the United States that receive Federal financial support and service 10,000 or more annual passengers. They will have 30 days to fulfill these responsibilities.

Failure to caption in-flight entertainment is not a violation of the Americans with Disabilities Act (ADA) or the Communications and Video Accessibility Act (CVAA). Additionally, FCC and DOJ do not have jurisdiction over airlines — especially over planes & in-flight entertainment. Jurisdiction for this lies with the Air Carrier Access Act (ACAA) which is enforced by the Department of Transportation (DOT).

HOW AND WHERE TO FILE YOUR COMPLAINT

U.S. Department of Transportation Office of Aviation Enforcement and Proceedings Aviation Consumer Protection Division



1200 New Jersey Ave, SE
Attn: C-75-D
Washington, DC 20590
United States
Phone: (202) 366-2220
TTY/Assistive Device: (202) 366-0511
Business Hours:
8:30am-5:00pm ET, M-F

The complainant should provide:

- His or her full name, address, telephone number, e-mail address, if any, and the name of the party who suffered the alleged discriminatory conduct, if other than the person submitting the complaint;
- The name of the air carrier involved in the incident, as well as the date of the incident, the place where it occurred and the flight number(s) involved;
- A detailed description of the incident that you believe constituted discriminatory action, including names of those involved (or a description of the individuals) and names of any witnesses; and
- Any other information you believe might be helpful in supporting your complaint. Please send copies (not originals) of any pertinent documents you have relating to the incident (e.g., ticket, boarding passes, itinerary sheets, and correspondence to and from the carrier involved).

For violations or complaints regarding accessibility on airlines, especially when it comes to in-flight entertainment or any other accessibility issues on planes, contact the U.S. Department of Transportation's Aviation Consumer Protection Division.

FCC established a new federal advisory committee called Disability Advisory Committee on Dec. 2, 2014, which provides advice and recommendations to the Commission on a wide array of disability issues within the FCC's jurisdiction.

The DAC provides a means for stakeholders with interests in accessibility issues to exchange ideas, facilitate the participation of consumers with disabilities in proceedings before the Commission, and assist the Commission in educating the greater disability community and covered entities on disability-related matters. The Committee is expected to keep the Commission apprised of current and evolving communications issues for persons with disabilities.

IN FLIGHT CAPTIONING continued from page 16

Issues to be considered by the Committee may include, but are not limited to, the following:

- Telecommunications relay services
- Closed captioning
- Video description
- Access to televised emergency information
- Access to video programming apparatus
- Access to telecommunications services and equipment
- Access to advanced communications services and equipment
- Hearing aid compatibility
- Access to 911 emergency services The National Deaf-Blind Equipment Distribution Program
- The impact of IP and other network transitions on people with disabilities

One of the subcommittees of the

DAC is the Video Programming Subcommittee. The Video Programming Subcommittee is in the process of making a recommendation to the FCC Disability Advisory Committee, which asks the FCC to play a significant role as an inter-agency partner with the U.S. Department of Transportation.

The draft recommendation is as follows:

- That the FCC convene an interagency workshop with the DOJ and DOT to develop an understanding of accessibility problems with video programming in hotels, hospitals, airport facilities, aircraft, and other places of public accommodation and consensus around solutions to those problems;
- That the FCC develop a shared understanding with the DOJ and DOT of the jurisdictional overlap and boundaries between the FCC, DOJ, and DOT for those problems;
- That the FCC develop protocols with the DOJ and DOT to redirect misdirected consumer complaints about those problems

to the appropriate agency with a minimum of consumer involvement;

- That the FCC discuss with the DOJ and DOT the procedural and jurisdictional parameters of taking enforcement action if future consumer complaints cannot be resolved through other means;
- That the FCC undertake educational and outreach efforts with the DOJ and DOT to inform consumers of information regarding video programming in hotels, hospitals, airport facilities, aircraft, and other places of public accommodation and avenues for quickly resolving problems.
- That the FCC update the Committee on these efforts within one year.

The FCC Disability Advisory Committee will be deliberating that recommendation soon, and likely will pass the recommendation intact to FCC for consideration. DOT is also expected to weigh in on the implementation of Closed Captioning in in-flight entertainment (IFE) requirements sometime in 2016. We will keep TDI members posted.



A banner for TDI (The Disability Institute) with a blue background featuring white and red dots. The TDI logo is on the left. On the right, a laptop screen displays the website www.TDIforAccess.org. The website shows a header with the TDI logo and navigation links, followed by a main content area with several images and text. Below the laptop, the text "Shaping An Accessible World" is written in large, bold, white letters.

2016

TDI Rings in the New Year



Toby Silver, Myrna Aiello, Cynthia Saltzman, and Pauline Spanbauer enjoy a rare ladies' time together.



Kyle Rosenberg, the new Community Development & Outreach Coordinator, Deaf-Hearing Communication Centre (DHCC), Swarthmore, PA speaks with John Fuchter - National Outreach Manager, Hamilton Relay and Neil McDevitt, Executive Director, DHCC.



Don Cullen, Director of Public Relations, TDI speaks with Julie Ann Schafer, Director of Standards and Practice with RID. In background are Dr. Christian Vogler, Director of Gallaudet's Technology Access Program, and Alfred Sonnenstrahl, former TDI Executive Director (1987-1996).



Registry of Interpreters for the Deaf (RID) President Dawn Whitcher makes a point with Howard Rosenblum, CEO of National Association of the Deaf.



Selina and Ross Gilson, Springfield, VA pose for pictures with Claude Stout, TDI.



Eliot Greenwald - Deputy Chief, Disability Rights Office, CGB, FCC converses with Mike Strecker, Vice President - Regulatory Affairs, Purple Communications.



Phil and Myrna Aiello, Owners of TCS Associates speak with Art Roehrig, a Deaf and Hard of Hearing Consumer Advocacy Network (DHHCAN) representative for over twenty years with American Association of the Deaf-Blind



Joe Duarte, Member-At-Large, TDI Board of Directors interacts with Paul Singleton, Director of Strategic Accounts with Purple Communications.



Gallaudet President Dr. T. Alan Hurwitz speaks with Rosaline Crawford, Attorney Advisor, CGB, FCC, while Vicki Hurwitz, First Lady - Gallaudet converses with Charmaine Hlibok, wife of Chief, Disability Rights Office, CGB, FCC Greg Hlibok.



Claudia Gordon, Chief of Staff with Office of Federal Contract Compliance Programs, US Department of Labor speaks with Claude Stout, TDI with interpreter Michael Creason and Shellie Blakeney, Corporate Principal Counsel with T-Mobile USA looking on.

Tech Bytes



DON CULLEN

Managing Editor, TDI World

Welcome to our
Tech Bytes section!
This section is TDI's
opportunity to share
bite-sized chunks of
awesomely interesting
tech, apps, and services
that we think you'd love
to know about!

The Next Generation of Information Technology is Here!

When telephones were invented, billions of lives were forever changed. No longer did people have to rely on postal mail; they were able to connect to each other instantly, regardless of distance. It took quite a while for telephones to become accessible for the deaf and hard of hearing (for example, TTYs), but when it did, the deaf and hard of hearing community benefitted from the technology enormously. People thought telephones wouldn't be take off – and yet it did.

The same occurred with the advent of computers; thanks to computers, videophones were able to be invented and refined for usage with the Video Relay Service and direct point to point calls. Computers also required microprocessors; this enabled the invention of hearing aids and cochlear implants. Computers also made closed captioning possible. Regardless of one's preferred communication lifestyle, there were suddenly more options than before. People thought computers wouldn't take off and become so integral to the functioning of society – and yet it did (especially when computers were miniaturized and made mobile!). The benefits for the deaf and hard of hearing communities are undeniable.



Phone from 19th Century



TTY from 20th Century



iMac from 2015

Television is another piece of technology that has irreversibly changed the lives everywhere, especially for the deaf and hard of

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TECH BYTES Continued from page 20

hearing community. The deaf and hard of hearing were left out when radio went mainstream; they had to rely on others to communicate what was being said on radio. Radio (which functions via the wireless spectrum) was a big benefit for the world at large, but not so much for the deaf and hard of hearing community. Once television was invented and went mainstream, the deaf and hard of hearing community could literally see what was going on. Quite a lot of people doubted television would hit mainstream; but now it has become a staple in not just homes, but also offices and venues nearly everywhere. The combination of television, closed captioning, (and hearing enhancement if those also made use of it) enabled a greater degree of inclusion in society.

It is quite clear that telephones, computers, television, and smartphones are of enormous benefit to the world at large – especially for the deaf and hard of hearing community. This also makes it painfully clear that with every huge jump in technology, the deaf and hard of hearing community falls behind and has to scramble to demand accessibility so they can also benefit from the technology.

This year, technology is about to jump into the next age of information technology. The deaf and hard of hearing community is once more at serious risk of being left behind. The industry hasn't taken a serious look at the accessibility issue. The industry will step up their efforts on the issue in order to serve the public interest, if there are numbers indicating a real concern on the

for this technology. The challenge at hand is that the current attitude on this technology is the same kind of attitude people had when other technologies were invented, such as the television, smartphones, etc. When it comes to potentially world-shaking technology, that's a very dangerous attitude to have, and can set back the community by decades.

This article will be focusing on what that technology is. This technology is known as augmented reality, and virtual reality. Some of you may know of it, and may chuckle about it remembering the industry in its' infancy. When an industry is in its' infancy, it is perfectly understandable to chuckle and nod knowingly without taking it seriously. But when the industry has grown from a toddler taking its' first steps to a young adult about to hit the workforce – that's when it's time to take the industry seriously. Virtual Reality (VR) and Augmented Reality (AR) are now at that point.

When asked to think about the term 'virtual reality', most people imagine somebody who happens to be wired up to a computer wearing an odd helmet and making weird movements in the air. While that is what it looks like, there is so much more to it than that.



Then came along mobile phones which relied on the wireless spectrum, the same kind of signal that radios relied on. Which eventually became smartphones. People laughed at mobile phones, poked fun at people carrying around huge mobile devices to their ears. People laughed even more at smartphones, saying the whole point of phones were to talk on them. Those very same people aren't laughing now. Needless to say, the mobile communications industry exploded thanks to the staggering amount of demand for this type of technology.

accessibility of VR/AR for the deaf/hard of hearing community, providing we ably demonstrate that the 21st Century Communications and Video Accessibility Act and other relevant laws covers critical needs pertaining to the technology, such as captioning for films, whether in 2D or 3D, captioning for video games, compatibility for emergency purposes (per Advanced Communication Services [ACS] by FCC), and so on. Consumer organizations also would benefit from being encouraged to step up on their efforts in petitioning for accessibility



A person trying out Oculus Rift technology exploring outdoors.

'Virtual' reality means that the user is fully immersed in a world or artificial

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environment that the computer has generated.

As you walk around the virtual world, your view changes in line with what you would expect in real life. Things get bigger as you walk towards them and smaller as you walk away. Also the direction of sounds move as you move around, once again giving you the impression of a real scene.

Website vrs.org.uk explains well why it is a good technology:

“This may seem like a lot of effort, and it is! What makes the development of virtual reality worthwhile? The potential entertainment value is clear. Immersive films and video games are good examples. The entertainment industry is after all a multi-billion dollar one and consumers are always keen on novelty. Virtual reality has many other, more serious, applications as well.

There are a wide variety of applications for virtual reality which include:

- Architecture
- Sport
- Medicine
- The Arts
- Entertainment

Virtual reality can lead to new and exciting discoveries in these areas which impact upon our day to day lives.

Wherever it is too dangerous, expensive, or impractical to do something in reality, virtual reality is the answer. From trainee fighter pilots to medical applications trainee surgeons, virtual reality allows us to take virtual risks in order to gain real world experience. As the cost of virtual reality goes down and it becomes more mainstream you can expect more serious uses, such as

education or productivity applications, to come to the fore. Virtual reality and its cousin augmented reality could substantively change the way we interface with our digital technologies.”

You likely watch movies. VR would completely change movies – instead of being outside the movie, you would be right in the MIDDLE of it. The implications of that are mind-boggling. Perhaps you’re watching a horror movie. You see people hiding behind a desk, and they seem to be scared of something behind you. So you turn around and look, and it’s a zombie missing it midsection mindlessly scrabbling along the floor looking for warm flesh to bite into. You see the zombie is getting closer – but wait, the zombie stops, and looks at something to your left. You look at your left – those two behind the desk are making a run for it! The zombie scrabbles after them rapidly, frothing at the mouth. The scene follows the couple running, so it’s like you’re running with them while you can look back to see how close the zombie is getting. You actually feel so much more involved with this.

Or perhaps you’re watching a romantic comedy. There’s this couple sitting together at the beach during sunset. While the couple is laughing and talking, you can look around at the beach, observe the beautiful sunset, while also enjoying the script between

the couple. Or maybe action is your thing? You’d be roaring down the slope on a pair of skis with a world class professional, or soaring in the skies with a pilot doing incredible stunts. A fan of documentaries? You would learn so much more if you were able to really look around while your guide explains how a concept works. But none of this would be of much benefit to you if it did not support captioning or was not designed to avoid causing interference with hearing aids/cochlear implants. The support isn’t there.

The possibilities aren’t just limited to interactive films. There’s employment. Perhaps you’d like to apply for a job, but you aren’t that good at interviews. There was an event in Washington, D.C. called TechDay in which a company called ‘Alchemy Learning’ developed virtual reality software that allowed a person to take part of a job interview with an artificial person. This operated via spoken speech, and the artificial person would listen, and respond, while also giving feedback on your responses to the artificial person’s questions. You’d be able to relax and not worry about making mistakes because it’s not a real person, it is practice. You’d have the benefit of getting good at handling the interview, which would significantly boost your

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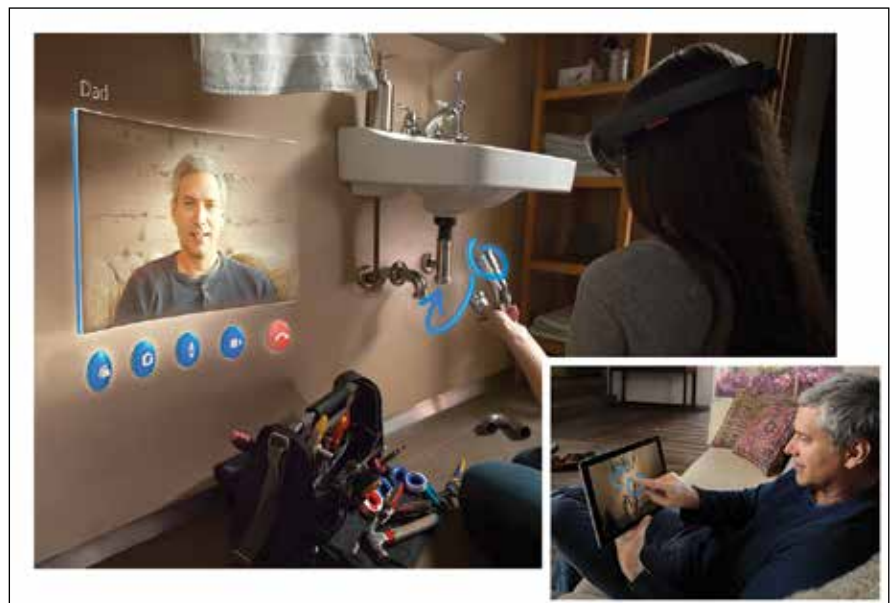
Trying out Alchemy Learning's interview software

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chances at employment. This would be a boon to the deaf and hard of hearing job-seekers everywhere – the unemployment rate of the deaf/hard of hearing is quite painfully high. However, this technology requires spoken speech, and also isn't captioned. So the world at large benefits from this, while the rest doesn't.

Before we argue that it's understandable about spoken speech being not accessible to the deaf/hard of hearing; don't forget about a deaf start-up company called MotionSavvy. MotionSavvy created software for a tablet that interacted with a fantastic equipment called 'Leap Motion Controller' (created by company Leap Motion). The software by MotionSavvy translates sign language into words – words that the tablet would then type and speak out loud. In other words, the tablet could act as a rudimentary interpreter without the need for human involvement. If this much is possible, then it is also quite possible to develop sign language recognition technology for use, especially with virtual and augmented reality devices. Which means the deaf and hard of hearing community has much to benefit from devices that enable remote learning, employment interview skill mastery, and so much more.

What about Augmented Reality (AR)? The simplest way of describing AR is imagine real life mixed with graphics. AR has even bigger potential to be a world-shaking technology. We're already used to people wearing glasses. Now imagine if those glasses were able to overlay information in the real world – information that matters to you. In an age where most people carry smartphones, those glasses would be able to link with your phone to determine what information is



A dad is using AR (Microsoft HoloLens) to show his daughter how to fix piping under the sink.

important to you.

Let's say you're driving. You're visiting a friend, but have no clue how to find your friend. All you know is that you're meeting him at Starbucks closest to you, but not where the Starbucks is. You'd simply say/sign something like: "Find me the nearest Starbucks." The glasses would interface with your phone, pull up a list of the Starbucks in the area, figure out which one is the closest to you, then it'd display it in front of you while asking if you'd like it to map out the

directions there. You'd then briefly nod, and it'd immediately draw out a subtle translucent line on the road in front of you, with translucent arrows pointing out the turns to make.

Another good example of AR is when you're at the doctor. Perhaps you're one of the people who rely heavily on captioning or sign language. No longer would you need to tell the doctor in advance that you need an interpreter. You wouldn't need to

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struggle to lip-read or use paper/pen to communicate. The doctor wouldn't give you a hard time about accessibility because it's already taken care of by your glasses. Not feeling well? Simply show up at the doctor, and say/sign out what the issue is. If you're signing, the glasses would pick up on it and translate in real-time for you. The doctor would respond with some questions – which the glasses would pick up on, and display in captions or via a sign language avatar in front of you, right beside the doctor. The playing ground would be truly equalized. You'd be able to go to restaurants, meet up with new people, and so much more without having to worry about the communications barrier.

I could go on and on about the endless possibilities that VR/AR offers. Like computers and smartphones, it's clear that this technology is game-changing. Oculus was one of the biggest developers of virtual reality technology, and they got snapped up by Facebook for an eye-watering two billion dollars. Leading companies that are moving into virtual reality include not just Facebook, but also Sony, HTC, Apple, Microsoft, Google, and more. The industry is already worth \$150 billion. I've tested out several pieces of virtual reality

Accessibility begins with you. Help us to shape an accessible world; after all, it's your world too!



Example of using AR while driving

software over the last two years, and absolutely none of it was captioned. The developers all assured me they'd add accessibility to their software, and yet today, none of them have demonstrated proof of this.

We have plenty of time to address the accessibility issue before the technology comes to market, right? Actually, no. VR/AR devices have already been launched, with the biggest being by HTC. Oculus (owned by Facebook) is launching this winter. Magic Leap (owned by Google) is launching next year. Sony is launching it next year. Microsoft is launching HoloLens next year. Taken altogether, it's clear that we have less than a year before the VR/AR industry leaves the deaf/hard of hearing community behind in the dust. With all of the product launches coming up, we're at more risk than ever of being left behind once again by the technological explosion.

Sony is launching a VR device known as Project Morpheus next

year, while Microsoft is launching an AR device known as HoloLens next year. Time is of essence. Consumers, consumer organizations, and industry leaders need to work together to achieve accessibility out of the door. Accessibility should not be an afterthought; it in fact should be the first thought when technology is being developed by those with the means to do so.

The industry clearly needs a push when it comes to accessibility. It is especially up to consumers like you to make it known that accessibility is a critical need when it comes to this technology. Contact industry leaders such as Microsoft, Google, Samsung, Oculus, and so forth, and let them know that we are concerned about being potentially left behind, and request that they start working for greater accessibility implemented promptly.

Accessibility begins with you. Help us to shape an accessible world; after all, it's your world too!



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Noteworthy News

TV SUBTITLES FOR THE DEAF WON'T BE MADE MANDATORY BY THE GOVERNMENT

Source: *Stuff.co.nz*
<http://bit.ly/1VfbdaG>

BY JO MOIR

New Zealand, September 24, 2015
 — Any hope of deaf and hard-of-hearing Kiwis getting television subtitles for the remaining Rugby World Cup games have been dashed because broadcasters don't have the capability.

The Green Party are calling for the Government to make captioning mandatory on New Zealand screens and in time for Kiwis to be able to enjoy some of the remaining games.

But Cabinet Minister Nikki Kaye who fielded questions on the issue in Broadcasting Minister Amy Adams' absence said technical issues around doing it wouldn't be resolved within the next few weeks.

"It's all about how you get that live feed from broadcasters overseas and that's just not possible."

She said the Government wouldn't make television captioning



Green MP Mojo Mathers wants mandatory captioning for TV screens.

mandatory because it would put a lot of cost on broadcasters.

"What we have said is we absolutely want to see improved live captioning and we want material to be accessible to all New Zealanders.

"We expect those broadcasters to step up and we're investing more to make sure that happens."

Green MP Mojo Mathers, who herself is deaf, questioned Kaye in the House on Thursday about

why television captioning wasn't mandatory on New Zealand screens.

Australia, England, Ireland, Scotland, Wales, France, Canada and the United States all have some form of mandatory captioning, which means their world cup coverage can be seen and heard, Mathers said.

"This Government needs to recognise that deaf New Zealanders are being excluded from following our national game, as well as from a huge amount of other TV programming."

"Many deaf and hard-of-hearing New Zealanders are being excluded from the thrill of following the All Blacks because we don't have mandatory TV captioning in this country."

Mathers said she knew personally how "frustrating" that could be.

Kaye said Sky TV won the rights to the Rugby World Cup and while they don't have the capability to make subtitles possible immediately, the Government would work with them to do more in the future.

NANYANG POLYTECHNIC CREATES WATCH TO HELP THE DEAF

Source: *Channel News Asia*
<http://bit.ly/1REqoME>

The BRACER Watch vibrates and lights up to warn the user of loud sounds like car horns and fire alarms.

Singapore, September 16, 2015 — Students and staff from Nanyang Polytechnic (NYP) have created a watch that will vibrate and light up when it picks up loud sounds, such as car horns and fire alarms, said NYP, The Goodwater Company, and The Singapore Association For the Deaf (SADeaf) in a joint news release on



BRACER watch on a user. (Photo: The Goodwater Company)

Wednesday (Sep 16).

The BRACER Watch, which has been licensed to The Goodwater Company, is designed to enhance road safety for those hard of hearing.

The BRACER Watch provides a basic digital clock function with a day and night display mode. It is also able to sense audio signals of high decibel

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using three different levels of signal detection.

In potentially unsafe environments, the watch will alert the user through vibrations and a flashing LED indicator. The battery can last up to 150 days per charge.

A trial on the BRACER Watch was conducted with six SAdDeaf members for three weeks, who then gave feedback on the device's performance.

"When we first heard about the BRACER Watch, we were excited to see how our community can benefit from such an innovation," said SAdDeaf Deputy Director Alvan Yap.

While geared towards benefiting the deaf, the watch also proves useful for seniors and youths who may be distracted with other tasks when crossing roads, for example.

SAdDeaf said feedback on the watch has been "generally" positive. "They find the functions useful, especially the light and vibration alerts," said Mr Yap. "But they felt that there could be further improvements in tweaking the sensitivity and loudness levels."

NEW TECHNOLOGY AIMS TO MAKE THEATRE MORE ACCESSIBLE FOR DEAF AUDIENCES

Source: A Younger Theatre
<http://bit.ly/20k1000>

BY JAMES LILLYWHITE

November 2, 2015 — New technology could make the

theatre more accessible for deaf and hard of hearing audiences.

CaptionCue was tested at the National Theatre's Temporary Theatre earlier this year, with 78% of people responding positively to it.

It shows closed captions on LED screens at the side of the stage, on a screen integrated in the middle of the stage, and also on tablets.

Melanie Sharpe, Chief Executive of Stagertext, who conducted the research, said: "We are excited about the possibilities that CaptionCue offers for the future.

"With additional research and development it has the potential to increase the number of captioned performances produced in theatres around the UK and create more choice for caption users who benefit from the service.

"Captioning opens up theatre to the estimated ten million people in the UK are deaf, deafened, and hard of hearing, that's one in six of the population.

"Many people who could benefit from the service simply don't know it exists. More promotion of captioning will bring people back to the theatre and sometimes for the first time."

Action for Hearing Loss say 40% of over 50-year-olds have some form of hearing loss, with that rising to more than 70% of over 70-year-olds.

The February tests saw 166

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COMCAST

ACCESSIBILITY

Comcast Accessibility Center of Excellence

Comcast customers seeking assistance for accessibility support now have a valuable new resource at their disposal: Comcast's Accessibility Center of Excellence (ACE).

Comcast ACE will provide customers who rely on key services—including closed captioning and video description services—direct access to a specially trained customer support team dedicated to accessibility support.

Customers can reach Comcast ACE directly by phone at

855-270-0379

9:00 AM to 10:00 PM Eastern
seven days a week.

Noteworthy News

FINALLY, A CRISIS HOTLINE THE DEAF AND HARD-OF-HEARING COMMUNITY CAN USE

Source: *Huffington Post*
<http://huff.to/1F34Wfz>

BY JARED WOLF

August 5, 2015 — When Crisis Text Line, the nation's first free, 24/7, nationwide text line, was founded, it was aimed at teens. It makes sense: teens text a lot, they need emotional support, and, oh yeah, they text a lot. Numbers don't lie: the service has processed over 8 million text messages in just over two years.

Today, we're here to support people of all ages and backgrounds. We're always learning new things about the ways people use Crisis Text Line, and every now and then, a message surprises us.

In 2014, one of our crisis counselors received a message that read, "I can't call suicide hotlines because I can't hear, so I was hoping I could use this service."

And there are more texts just like it: "I'm deaf and I've been feeling down lately," started one conversation. (The same conversation ended with, "Thank you for helping and being there for me.") In total, over 100 of our texters have told us they're deaf, and that's probably just the tip of the iceberg.

It turns out that for many people with hearing loss, Crisis Text Line is a lifeline. Text can be a great equalizer, granting access to free, 24/7 crisis care to people who would otherwise not have had it. Hearing or deaf, just about anyone can text.

It's meant a lot to us to discover the unique role our service plays for so many people in D/deaf and hard of hearing communities, but we're ready

to do more, and to do better. (Here's where you can learn more about the difference between "Deaf," "deaf," and "hard of hearing.")

That's the challenge I've been asked to address as Training Intern with Crisis Text Line. First off, how do we make our training accessible to people with hearing loss without losing any of the important information that makes our crisis counselors as strong as they are? This is a community full of people with the skills and drive to be amazing crisis counselors, who deserve the same great training experience.

Adding closed captioning on our training videos, and providing chat-based training sessions as an alternative to video conference-based sessions are a start. The next step will be integrating American Sign Language interpreters and transcribers into all of our training sessions.

Second, how do we reach out to this community to bring greater awareness of the service to potential texters and potential crisis counselors? We're aiming to accept 50 deaf/hard of hearing people into training this fall. (Interested? Apply by September 22!) Our partnerships certainly help, but the key will be word of mouth.

Third, how do we address the specific mental health needs of our deaf and hard of hearing texters? Providing accessible resources and culturally-competent support needs to be a priority. Bringing in health care providers experienced in working with the Deaf community will help us to ensure that our work is sensitive to their specific needs.



Crisis Text Line
 Free, 24/7 crisis support. All via text.

It's a learning process, and a rewarding one. We've made some kickass partners along the way: Center for Hearing and Communication, one of New York City's two mental health care providers for the deaf, has provided expertise on accessibility and mental health; Rikki Poynter, who is Deaf, gave us a big shout-out on her popular YouTube channel; and SayWhat Club sent recruitment info to its 1,000+ online members.

We're just getting started, and we're very excited. We can't wait to see the impact a fully-accessible Crisis Text Line will have.

Learn more about joining our team as a crisis counselor.

Jared Wolf is a Training Team Intern and a volunteer crisis counselor at Crisis Text Line. His passions are mental health advocacy and Kelly Clarkson. In his free time he writes and performs stand-up comedy.

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people try out the CaptionCue technology.

The audiences included people with and without hearing issues.

The technology means there is no need for a captioner, as the screens show automated captions.

It is funded by Nesta, Arts & Humanities Research Council and public funding by the National Lottery through Arts Council England.

Stagetext is a charity that tries to make the theatre more accessible for deaf and hard of hearing people.

CaptionCue and StageText work to promote theatre for the deaf and hard of hearing communities.



Facing the music ... Skyfall was cited in the lawsuit as an example of a film with incomplete song captioning.

Photograph: Allstar/United Artists/Sportsphoto Ltd

NETFLIX AND FILM STUDIOS FACE LAWSUIT OVER SONG CAPTIONING FOR DEAF

Source: *The Guardian*
<http://bit.ly/1NqUag8>

The streaming service, Disney, Fox, Universal, Warner Bros and Paramount have been accused of discrimination against the deaf for failing to caption songs in films such as Skyfall

October 20, 2015 – Studios including Disney, Netflix, Fox, Universal, Warner Bros and Paramount have been hit with a lawsuit accusing the companies

of discrimination against the deaf and hearing impaired, according to the Wrap.

The suit alleges that films advertised by the studios with the option of captions or subtitles are incomplete as song lyrics are not included.

“While the dialogue of some movies or shows are indeed fully subtitled, the practice of not subtitling song/music lyrics is frustratingly widespread,” the complaint stated.

The complainants cited the Captain America films, Selma and Skyfall as recent examples of films that have included incomplete captioning. The studios have yet to comment on the suit, though it’s thought that the tendency to remove lyrics from captioning is due to a successful lawsuit against Disney in 1992, which claimed that reproduction of lyrics for their sing-a-long VHS tapes was a breach of copyright. Traditionally extra permissions are required from the song’s rights holder for the use of lyrics on-screen.

“It is encouraging to see the issue of incomplete captioning in popular, mainstream films has been highlighted,” said Dr Terry Riley, chairman of the British Deaf Association. “We believe that anyone who purchases a cinema ticket should have full access and this includes captions. The cost of the subtitles is minimal and far outweighs any potential loss of income”.

In 2012 Netflix faced another lawsuit claiming the lack of complete captioning on their streaming service violated the Americans with Disabilities Act of 1990. The company settled with the complainants and agreed to caption all of its web-streamed content by 2014 after attempting to argue that the federal law, which makes accessibility a legal requirement, did not apply to online

businesses.

The complainants in this latest case are seeking unspecified damages, as well as clear labelling on DVD and streaming products “to make it clear what content is captioned and what is not”.



A sweet exchange between a deaf customer and a Starbucks barista

DEAF WOMAN'S EXCHANGE WITH STARBUCKS BARISTA IS THE SWEETEST THING YOU'LL SEE TODAY

Source: *People.com*
<http://bit.ly/1PsMOxN>

By Maria Yagoda

November 6, 2015 — Florida — A sweet exchange between a deaf customer and a Starbucks barista was captured on video – and is now blowing up on social media.

In just three days since King posted the video on her Facebook page, the video has been viewed over 9 million times, with over 235,578 shares.

“I’m glad that there’s more awareness

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for deaf culture and the deaf community. To see this come to light and actually be a part of it, I feel so blessed,” said Wyble, who has been studying at the American Sign Language School since grade school.

King is thankful for new technology – like video at a drive-thru – that is making life easier for deaf people.

“It is a big deal to [the] deaf community that Starbucks has one now. Nowhere else has that!” King

told Jacksonville NBC affiliate WTLV.” We all want to have that at every drive-thru in the world.”

AMAZON REACHES DEAL WITH DEAF RIGHTS GROUP TO CAPTION ALL VIDEO

Source: *Ars Technica*
<http://bit.ly/1G8lD9Q>

BY JOE MULLIN

October 14, 2015 — A deaf rights group that sued Netflix to compel it to

caption all its video programming has reached a similar deal with Amazon over its streaming video.

Unlike the Netflix settlement, the deal between Amazon and the National Association for the Deaf was negotiated without litigation.

Amazon has already captioned 100 percent of the video it offers through its Prime Video and has agreed to continue to do so. Under the deal with

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WOMEN OF AFRICA: DEAF-BLIND LAWYER ON TYPING TO OBAMA

Source: *BBC*
<http://bbc.in/1WZxdvu>

November 18, 2015 — Haben Girma was the first deaf-blind student to graduate from Harvard Law School. Today the Eritrean-American fights for better education for deaf-blind people worldwide.

Ms Girma was born in California after her mother fled Eritrea in the early 1980s.

Growing up in the US school system, she benefited from accessible technology, such as a digital Braille device - something her elder brother, who is also deaf-blind, was denied in Eritrea.

Now she is working as a lawyer to try to improve access to this technology and challenge expectations of people with disabilities.

Earlier this year, she met US President Barack Obama.

Haben says: “I am an attorney here and I grew up facing access barriers as a deaf-blind person, and that inspired me to become a lawyer.

“And when I first started at Harvard



Haben Girma posing with U.S. President Barack Obama while holding digital braille device

Law School, there were very few deaf-blind attorneys. I couldn't turn to older deaf-blind individuals and ask. I had to figure it out a lot on my own. So graduating from Harvard Law School says a lot about what can be done when people have the right attitude.”

One of Haben's priorities is to help deaf-blind people communicate through better access to technology.

Haben says: “There are so many forms of communicating information. And if we're creative and open-minded, we'll find those forums. I use a digital braille display and QWERTY keyboard for

communication. The braille display shows in digital braille, mechanical dots pop up to form braille letters. And, as I am reading, my assistant Chris types on a QWERTY keyboard when there are conversations going on.”

Haben met President Obama at the White House to celebrate the 25th anniversary of the Americans with Disabilities Act.

Haben says: “At the White House celebration of the 25th Anniversary of the Americans with Disabilities Act, President Obama met with me and he used alternative technologies to communicate with me. That sends a very empowering message. It reminds the rest of the United States and the rest of the world that having an inclusive attitude ensures that people with disabilities can contribute their talents to society.”

Women of Africa is a BBC season recognising inspiring women across the continent. The first series, Africa's Unsung Heroes, introduces eight women who are making a difference in their country - and beyond.



TDI In Action

September - November 2015

AADB = American Association of the Deaf Blind

ALDA = Association of Late Deafened Adults, Inc.

ASDC = American Society of Deaf Children

CC - closed captioning

CCASDHH = California Coalition of Agencies Serving Deaf and Hard of Hearing, Inc.

CGB = Consumer and Governmental Affairs Bureau

CPADO = Cerebral Palsy and Deaf Organization

CTS - Captioned Telephone Service

DHHCAN = Deaf and Hard of Hearing

Consumer Advocacy Network

DRO = Disability Rights Office

E-911 - Enhanced 911

FCC = Federal Communications Commission

FNPRM - Final Notice of Proposed Rulemaking

HLAA = Hearing Loss Association of America

IP - Internet Protocol

NAD = National Association of the Deaf

NBDA = National Black Deaf Advocates

NG-911 - Next Generation 911

RERC-TA = Rehabilitation Engineering Research Center on Telecommunication Access

SCAT/SCABT = Speech Communications Assistance By Telephone, Inc.

SoA = Speed of Answer

TAP = Technology Access Program at Gallaudet University

TDM = Time Division Multiplexing, a method of handling electronic communications

TIA = Telecommunications Industry Association

TLPC = Samuelson-Glushko Technology Law & Policy Clinic

TRS - Telecommunications Relay Service

VRS - Video Relay Service

Captioning, Subtitles, and User Interfaces

- (October 15, 2015) TDI via Drew Simshaw (of the Institute for Public Representation, Georgetown Law) filed oppositions to Petition for Exemption from the Commission's Closed Captioning Rules, CGB Docket No. 06-181:

Singing Crusade for Christ, Inc./ Lloyd Morgan Revivals, CGB-CC-1364 <http://apps.fcc.gov/ecfs/comment/view?id=60001303962> <http://apps.fcc.gov/ecfs/comment/view?id=60001303962>

Tunuva Media, LLC, CGB-CC-1351 <http://apps.fcc.gov/ecfs/comment/view?id=60001303957> <http://apps.fcc.gov/ecfs/comment/view?id=60001303957>

WATC-TV/Community Television, Inc., CGB-CC-1360 <http://apps.fcc.gov/ecfs/comment/view?id=60001303960> <http://apps.fcc.gov/ecfs/comment/view?id=60001303960>

[view?id=60001303960](http://apps.fcc.gov/ecfs/comment/view?id=60001303960)

Life Issues Institute, Inc., CGB-CC-1363 <http://apps.fcc.gov/ecfs/comment/view?id=60001303961> <http://apps.fcc.gov/ecfs/comment/view?id=60001303961>

- (November 13, 2015) TDI via Blake Reid (of Samuelson-Glushko Technology Law & Policy Clinic, Colorado Law) worked with NAB on ENT, including drafting the survey report and reply comments. Summary: "TDI's efforts, along with other deaf and hard of hearing consumer groups, included working with the National Association of Broadcasters to evaluate the ongoing state of news captions generated using the Electronic Newsroom Technique. The efforts culminated in consumer and broadcaster surveys and a report to the FCC; the FCC is currently considering next steps on the matter." <http://apps.fcc.gov/ecfs/comment/view?id=600013039321> <http://apps.fcc.gov/ecfs/comment/view?id=600013039321>

Real Time Text (RTT)

- (August 24, 2015) TDI via Monica Desai and Ben Tarbell (of Squire Patton Boggs) filed comments with FCC on AT&T's Petitions for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology. Link: [HYPERLINK "http://apps.fcc.gov/ecfs/comment/view?id=60001098505" http://apps.fcc.gov/ecfs/comment/view?id=60001098505](http://apps.fcc.gov/ecfs/comment/view?id=60001098505)
- (September 10, 2015) TDI via Monica Desai and Ben Tarbell (of Squire Patton Boggs) filed reply comments with FCC on AT&T's Petitions for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver

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of Rules Requiring Support of TTY Technology. <http://apps.fcc.gov/ecfs/comment/view?id=60001299107>
<http://apps.fcc.gov/ecfs/comment/view?id=60001299107>

- (October 26, 2015) TDI via Monica Desai and Ben Tarbell (of Squire Patton Boggs) filed with FCC on Technology Transitions. Summary: "Filed comments saying that the Consumer Groups believe that the interoperability of accessibility services should be one of the Commission's primary considerations as IP-based services are deployed. The Consumer Groups also advocate that the

transition from RTT to TTY must be sufficiently gradual to allow all users of TTY services to safely transition to other accessibility services, and that testing should be performed to ensure that RTT services can communicate with 911 answering points." <http://apps.fcc.gov/ecfs/comment/view?id=60001305265>
<http://apps.fcc.gov/ecfs/comment/view?id=60001305265>

Other Issues

- (Ongoing) TDI via Blake Reid (of Samuelson-Glushko Technology Law & Policy Clinic, Colorado

Law) participated on the DAC, and also issued a joint DOJ / DOT / FCC task force recommendation. Summary: "In conjunction with other deaf and hard of hearing consumer groups and members of industry, TDI drafted a recommendation for the FCC's disability advisory committee that the FCC form a task force with the Department of Justice and Department of Transportation to address ongoing issues for consumers accessing captions in public places, including airports, airplanes, hotels, and hospitals. The recommendation is currently pending."

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NAD, Amazon will move through its back-catalog content, captioning an additional 190,000 titles which weren't given captions by the content creators.

For videos that have been viewed more than 10 times in the past 90 days, Amazon will get 90 percent of them captioned by the end of this year and 100 percent of them captioned by the end of 2016.

"The NAD is thus thrilled by Amazon's decision to make its online entertainment experience more accessible to deaf and hard of hearing customers who also look to Amazon to fulfill their needs for comprehensive goods and services," said Howard Rosenblum, CEO of the NAD.

"All content available through Prime Video has been captioned since the beginning of this year and we already offer an extensive selection of captioned content," said Jim Freeman, VP of Amazon Video. "We are happy



Captioning on a random video - Photo credit Daniel Oines

to partner with NAD to extend captions even deeper into our back catalog of titles."

NAD attorney Namita Gupta said that the group tried to negotiate with Netflix, too, but "they were unwilling" and the negotiations failed. The discussion with Amazon, by contrast, was "amicable from the start," she said.

Gupta said she hopes the Amazon settlement will serve as an example for anyone providing streaming video online. Asked if NAD was considering

negotiating for 100 percent compliance from smaller entities who stream video online, through YouTube for instance, Gupta declined to comment.

Harvard and MIT were sued by NAD earlier this year over their online courses, which aren't properly captioned. That case is ongoing. The university defendants have asked the case to be dismissed or stayed (PDF) until the Department of Justice releases its guidelines on when and how websites should be made compliant with the American for Disabilities Act. NAD has opposed that motion, which is fully briefed and could be decided any time.

The DOJ guidelines are needed in part because courts have come out differently on the matter, the universities argue. In Massachusetts, a federal judge allowed the NAD lawsuit against Netflix to move forward. In April, the US Court of Appeals for the 9th Circuit ruled differently, finding that the ADA doesn't apply to Netflix.

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