

To: The Honorable Ajit Pai
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

September 28, 2018

Subject: Closed Caption Quality Issues with ASR (automatic speech recognition)

Dear FCC Chairman Ajit Pai,

I'd first like to say thank you for the FCC's continued efforts to improve captioning quality standards. I believe that these standards are critical to ensure closed captions "make sense" to anyone who watches them. As the president of a closed captioning company, we strive for excellent/perfect captions in both our live and post captioning services. We are also a technical company and have been doing a lot of research and testing to see how we can incorporate ASR into our products. We have tested 15 different services which you can see a synopsis in the chart below. These error rates do not include grammar errors or speaker identification which are either non-existent or very poor in ASR. Based on the standard WER (word error rate) analysis, none of these options are close to acceptable based on the current FCC caption quality standards. Please note the last column "# wrong".

Program Details			ASR Results		
Single Speaker: 30 minute TV program videos	total words in 28.5 min program	words per minute	WER (word error rate) range: IBM, ENCO Google, MacCap, Swords, Scribe, Temi, V-Base, Amazon, Speechmatics, Link, Verbit, etc.	Average WER	# wrong, missing or incorrect words
female-articulate-deep voice	4487	157	7.38 - 16.67	9.04	406
speed bursts-medium voice	3698	130	22.37 - 35.00	26.29	972
female-articulate-medium voice	4652	163	9.38 - 15.12	10.62	494
male-articulate-deep voice	4299	151	5.59 - 9.78	6.97	300
male-Southern accent-speed bursts-multi pitch	3492	123	19.79 - 37.98	26.6	929
male-articulate-slight accent	4431	155	5.43 - 10.87	7.57	335

We are seeing TV stations and other entities adopting these automated ASR backed options. My concern is that today, these are not meeting the FCC mandated guidelines, yet they are becoming accepted by stations. I've heard comments that no one is complaining so it's okay. This is where I'm hoping the FCC can step-up and make it clear that stations are required to meet the caption quality guidelines in a proactive approach.

While ASR technical solutions are "cool" and provide costs savings, they don't meet the current FCC guidelines. By allowing ASR backed services to be implemented, it is sending a message to the entire broadcast industry that it is okay to circumvent the guidelines. We are taking a step backwards in quality and the consumers that rely on quality closed captions are left without an option to view programs. We urge you to maintain the established rules and focus on advancing policies that uphold the current caption quality standards.

Sincerely,



Matthew Cook
President
Aberdeen Captioning, Inc.



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