



Via electronic filing and electronic mail

July 15, 2011

Ms Marlene Dortch  
Secretary  
Federal Communications Commission  
445 12th St., SW  
Washington, DC 20554

Notice of *ex parte* presentations, CG Docket No. 05-231 ("In the Matter of Closed Captioning of Video Programming; Telecommunications for the Deaf, Inc. Petition for Rulemaking")

Dear Ms Dortch:

On July 13, 2011, Larry Goldberg, director of the Carl and Ruth Shapiro Family National Center for Accessible Media at WGBH (NCAM); Marcia Brooks, project director for NCAM; and Tom Wendt, Sales Director - Americas, Nuance Communications discussed caption accuracy metrics tools and procedures related to various Commission NPRMs and Notices under CG Docket 05-231 (specifically provisions of those notices regarding standards for non-technical quality of closed captioning). The attached presentation was provided to all those attending the meetings and is based on Federally funded research conducted by NCAM. These presentations and the attachment updated previously filed comments by NCAM under this docket and indicated a plausible and practical means of across-the-board, common comparisons and benchmarking of caption quality and a schedule for "level-setting" and sampling that would achieve the metrics needed for assessing non-technical quality and improvement over time of closed captioning.

We met with the following Commissioners and Commission staff:

Erin McGrath, Acting Legal Advisor for Comm. McDowell  
Comm. Michael J. Copps  
Margaret McCarthy, Policy Advisor for Comm. Copps  
Joshua Cinelli, Media Advisor for Comm. Copps  
Comm. Mignon L. Clyburn  
David F. Grimaldi, Chief of Staff and Media Legal Advisor for Comm. Clyburn  
Jessica Almond, Special Counsel, Chairman Genachowski  
Joel Guerin, Chief, Consumer and Governmental Affairs Bureau (CGB)  
Karen Peltz Strauss, Deputy Chief, CGB  
Greg Hlibok, Chief, Disability Rights Office, CGB  
Roger Holberg, CGB  
Elliot Greenwald, CGB

This letter and attachment is being filed electronically via ECFS and delivered via e-mail to FCC staff present at the meeting.

Sincerely,

A handwritten signature in black ink that reads "Larry Goldberg". The signature is written in a cursive style with a large, prominent "L" and "G".

Larry Goldberg, Director  
The Carl and Ruth Shapiro Family  
National Center for Accessible Media (NCAM)

cc: [above-named participants]

enc. PowerPoint printout of presentation

# **Caption Accuracy Metrics: Solutions for Automatically Measuring Caption Quality**

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**WGBH National Center for  
Accessible Media**

**Nuance Communications**

***Prepared for the Federal Communications  
Commission - July 13, 2011***



## The WGBH National Center for Accessible Media

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- R&D facility est. 1993, emerged from Media Access Group at WGBH, which pioneered closed captioning and descriptive video
- Supports national policy decisions
- Develops technical solutions
- Advances standards development
- Conducts research

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# NUANCE COMMUNICATIONS - Company Background

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- Leading provider of speech and imaging solutions for
  - Enterprise customer care
  - Mobile devices and networks
  - Healthcare
  - Desktop productivity applications
- Founded in 1992
- Publicly traded on NASDAQ (NUAN)
- Headquartered in Burlington, Massachusetts with over 6,000+ employees in 35+ offices worldwide
- FY 2010 Revenue \$1.12B
- Over 1,000 filed and pending speech patents and over 40 imaging patents



# Transforming Customer Experiences



**Mobile solutions in over 3 billion phones, cars and navigation systems**



**3,000 healthcare institutions**

***Unlocking the potential of systems, services and devices***



**More than 8 billion customer care interactions**



**Over 21 million registered desktop application users**



# Nuance and WGBH - Leading Together

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- Strong Senior Management Relationship
  - Steve Chambers Chief Marketing Officer & EVP of WW Sales
- Project Partnership since November 2009
  - Nuance technological expertise and professional services
  - WGBH industry subject matter expertise
- Dragon NaturallySpeaking
  - Market leading desktop solution for people with disabilities



# Background of caption quality problem

- 1996 Telecom Act requirements
- 1998 Report & Order: quantity rules only, *quality* left to marketplace
- Increased competition:
  - rapid drop in captioning service prices
  - declining quality
- 2005 TDI Petition and 2005/2008 NPRMs on “standards for non-technical quality of closed captioning”
- 2010 Refresh of Comments

# The Caption Accuracy Metrics Project

Awarded to the WGBH National Center for Accessible Media by the U.S. Dept. of Education, National Institute on Disability & Rehabilitation Research (Oct. 2008 – Sept. 2011) **to develop a prototype measuring tool – *the CC Evaluator* – to analyze the quality of real-time captioning, with input from consumers, industry leaders, deaf education experts and the National Institute of Standards and Technology (NIST).**

# CC Metrics Project Outcome and Benefits

## **Project outcome:**

The project will develop a customized prototype that enables standardized, independent analysis of caption accuracy metrics.

## **Benefits:**

- Provide standardized tool for caption accuracy measurement
- Improve ability of TV industry to monitor and maintain quality of captioning services
- Reduce need for caption viewers to document and advocate for better quality

# Examples of non-technical quality failures



**Correct text:** PROTEST MOVEMENT, THE  
DISSIDENTS -- DISSENT OF THE  
PEOPLE BELIEVE

# Examples of non-technical quality failures



**Correct text:**

>> Reporter: AS IT EMERGES FROM  
BANKRUPTCY, THE ONCE MIGHTY  
GENERAL MOTORS CORPORATION WILL

# Examples of non-technical quality failures



**Correct text:**

I KNOW THERE ARE SOME UNCERTAINTIES.  
I'M A CLIMATOLOGIST MYSELF.

# Examples of non-technical quality failures

**Caption: THIS PROSWILLING QUICK.**

**(Spoken: THIS PROCESS WILL BE QUICK.)**

**Caption: GAGNE SKILLS TO PUT ON YOUR RESIDENT.**

**(Spoken: GAIN NEW SKILLS TO PUT ON YOUR RESUME. )**

**Caption: WILL THE PRESIDENT BEND TO THE PRESSURE?**

**(Spoken: WILL THE PRESIDENT BEND TO THE PUBLIC?)**

**Caption: THEY SAY YOU'RE PHOTOSTAT US QUO**

**(Spoken: THEY SAY YOU'RE FOR THE STATUS QUO)**

## Published results

- 351 respondents from 48 states completed national consumer survey
- The *CCEvaluator* process
- “Nature of algorithm” - 17 error types, weighted word error rate (informed by consumer survey)
- Automation aspects

## Proposed schedule for implementation

- One year of “level-setting” followed by quality control requirements
- Sampling of day parts, market sectors
  - Top 25 markets to start, top 100 after 1<sup>st</sup> year
  - Six day-parts, from 6 a.m. to midnight
  - English language to start, Spanish after 1<sup>st</sup> year
  - Segmented by market size, broadcast/cable, genre (news/sports and other live programming)

# **The CC Metrics website**

**[http://ncam.wgbh.org/  
invent\\_build/analog/  
caption-accuracy-metrics](http://ncam.wgbh.org/invent_build/analog/caption-accuracy-metrics)**

# Contacts

## **The WGBH National Center for Accessible Media**

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## **Nuance Communications**

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