

Session hashtag: #SWDigiAccess

## The Future of Access to Digital Broadcast Video



# Panelists

- Andrew Kirkpatrick, Adobe Systems
- Craig Cuttner, Home Box Office
- Shane Feldman, National Association of the Deaf
- Glenn Goldstein, MTV Networks / Viacom

# What users get today



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c|net

Next app is reminders. This is another thing you'll get,

1:09 / 2:30 CC

# What users get today



The image shows a video player interface. The main video content displays a woman in a red jacket and glasses looking at a large yellow envelope. A man with glasses is partially visible in the foreground. The video has white subtitles at the bottom that read: "Your contract's almost up, and Mr. Donaghy's Office".

Overlaid on the right side of the video is a dark grey menu for "Closed Captioning". It contains the following options:

- Closed Captioning**
  - English
  - Off
- Caption Style**
  - A
  - A
  - A
- Save this as my default.

At the bottom of the video player, there is a control bar with the following elements from left to right: a play/pause button, a next button, a volume icon, a "CC" icon, a settings gear icon, a full screen icon, and a progress bar showing "00:34 / 21:42".

# What users get today



# What users get today

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00:02 / 04:57

CC Arabic

MED

# What users get today

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speed than what Al and Gus had had. They didn't  
have enough

10:16 / 25:49 CC [Settings] [Full Screen]

# Why Caption?

- 48 million deaf and hard of hearing people
  - 15% of your visitors/users!
- Captions allow users / companies to search videos
- People who speak English as a second language
- Noisy places / places where volume is muted
  - Workplaces (We won't tell)
  - Bars/restaurants
  - Doctor's offices
  - Gyms



# What is the CVAA?

- Twenty-first Century Communications & Video Accessibility Act
- 2010 law addresses disability access to Internet & broadcast media and more.
  - Captioning
  - Audio description
  - Interface requirements
  - Emergency information
  - More...

# New Regulations: IP Captioning

- In January 2012 the FCC released a Report & Order for closed captioning
  - All full-length video programming previously shown with captions on TV must have captions when streamed online via IP.
  - Captions of IP-delivered video programming must be at least the same quality as the captions shown on TV.
  - Equipment or technological devices such as such as personal computers, tablets, cellular phones, game consoles, Blu-ray players, or set-top boxes are required to display captions.
  - Impacts any company delivering previously broadcast video over the Internet, not just media production companies.

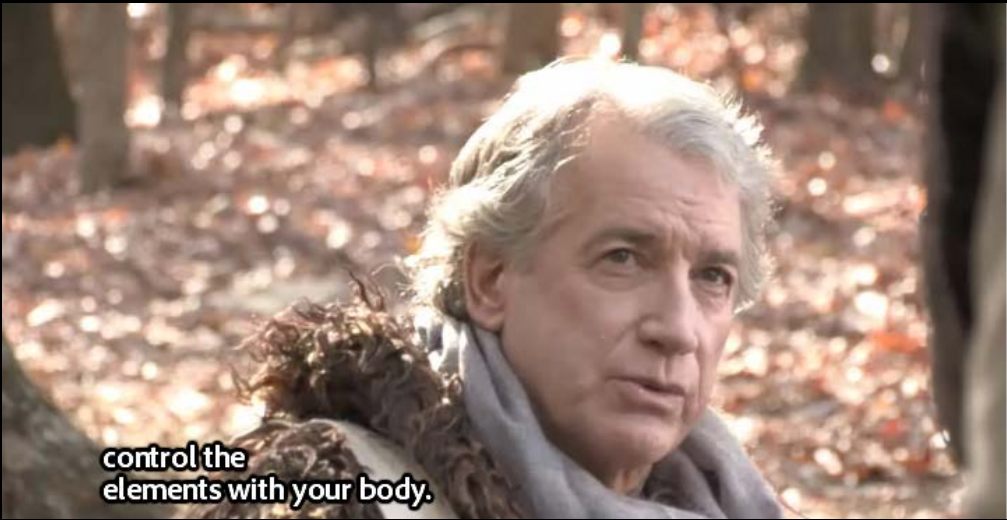
# CVAA Compliance Dates

- Prerecorded and unedited content – 6 months
  - 6 month deadline likely to impact fall programming
- Edited content – 12 months
- Live content – 18 months
  - Specific dates not yet set
  - Rules have not been officially published in the Federal Register.
- Archival content – 24 months
  - Content already online, without captions

# User Control Requirements

- Platform vs. Application managed
- Users provided with ability to control:
  - Character color
  - Character opacity
  - Character size
  - Fonts
  - Caption background color and opacity
  - Character edge attributes
  - Caption window color
  - Language

# User controls – what is possible? (Demo)



# Coming regulations: Audio Description & User controls

- FCC rules for audio description and user interfaces
  - Will be released in 2012
- Report & Order will include rules on:
  - Location of and types of controls for end users
    - Closed captions
      - On/off button
      - Persistence
    - Video description (blind users)
      - Toggle description on/off
      - Volume adjustment
      - Channel selection

# Delivering closed captions

- Variety of tools and formats to choose from.
- In-band (embedded in video file) vs. out-of-band (separate file)
- Web caption formats – the current set:
  - SMPTE-TT (specified by the FCC as sufficient format)
  - W3C TTML 1.0 (DFXP)
  - WebVTT
- Video providers for the web have many choices for captioning
  - Do it yourself tools
  - Paid services – WGBH, CaptionColorado, Vitac, CaptionFirst, AutomaticSync, 3PlayMedia, and many more....
  - YouTube – automated captioning

# How to deliver captioned video on the web

- Short version:

**Caption data + video player + caption parsing and display = captioned video**

- Flash video players – OSMF, FLVPlayback, JWPlayer
- HTML5 video – TTML or WebVTT JavaScript polyfills. Native support not complete yet.
- YouTube – upload caption file for video, accepts various formats



# Adobe Premiere Pro

- Adobe Premiere Pro 5.5 offers video editors the ability to import closed captioning data and review results for accurate integration into video.
- Premiere Pro supports speech analysis and script alignment to help video production teams more easily support closed captioning in their workflows.
  - Import CEA-608 and CEA-708 caption data
- Premiere Pro supports caption data export for traditional or HD video, via 3<sup>rd</sup> party plugins.



# Adobe Open Source Media Framework

- OSMF supports captioning via TTML presently and a plugin for SMPTE-TT is available but also under further development.
- OSMF supports audio description via “late binding audio”:  
<http://tinyurl.com/latebinding>



open source  
media framework

# Content Provider Perspective: Challenges

- Goal is to repurpose TV captions.
- **Workflow Challenges**
  - Late production deliveries present challenges, as programs may be encoded for the Internet before caption authoring has completed.
  - Many programs are edited for Internet presentation, either with alternate audio scores or scenes deleted.
  - Digital and Linear departments have different production schedules and are not always aligned with each other
  - Large libraries of uncaptioned video already online
- **Platform Challenges**
  - Caption formats and techniques (in vs. out of band) differ across platforms. This has held back the widespread rollout of Internet captioning.
  - “As shown on TV...” a challenge for small devices.

# Future Possibilities

- Caption automation
  - Improving caption timing post-broadcast (MTV demo)
- Automated sign language interpretation
- Text to speech for video description
- Dynamic braille for deaf-blind users
- Innovating with captions in the creative process
  - CSI: Miami clip (demo)
    - Captions are positioned not to overlap with critical visual images
    - Captions communicate tone, pitch, more.

# Q&A