

# Captioning Web Video and Video for iPod and iPhone

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# What are Captions and Audio Description

## Captions

- Are on-screen display of spoken dialog
- Include meaningful sounds
- Include indication of speaker (and sometimes speaker's "tone")
- Are synchronized with audio
- Are typically "pop-on" or "roll-up"
- Have 1-3 lines maximum on screen at once, 32 to 42 characters per line, typically centered, and not all uppercase
- Break lines and "chunks" at logical, semantically sound places
- Are not subtitles (which translate dialog into another language)

## Audio description

- Is an audio-only track that plays synchronously with the video, describing necessary visual content
- May document scenes, character appearance/gesture, actions
- Records on-screen titles

# Why Caption (and Audio Describe)

## Direct benefits of captioning

- For deaf and hard-of-hearing
- For noisy places/places of enforced quiet
- For "multi-modal" learning
- For language acquisition, both non-native and low-literacy
- For study or as review aid

## Knock-on benefits

- Satisfies legal and [policy requirements](#)
- Potential for enhancing discoverability and searchability of learning materials, which may increase re-use

## Audio description

- Fundamental for blind and low-vision usability
- Enhanced usability for all: gives context for audio-only playback

# Steps to Captioning

1. Get a transcript
  - Use speech recognition? Use a service?
  - Key: Clean, accurate, verbatim
2. Chunk the transcript
  - between 32 and 42 characters
  - one or two line chunks best
  - logical, semantic line breaks/chunk breaks
3. Add speaker changes and cues
  - for sound-effects: ( *door creaks* )
  - for speaker intros: (*Prof. Smithe*)
  - speech tone indicators: ( *giggling* ): *You're joking!*
4. Synchronize chunked transcript with video
  - Use a tool!: [MAGpie](#) (Windows), [MovCaptioner](#) (Mac), other solution, such CPC, Hi-Caption, etc.
5. Output to media (we'll output [DFXP](#))

# Steps to Audio Description

MAGpie will export SMIL with audio description and both Real Player and QuickTime support it. Skills for Access has some good information on audio description using SMIL for integration.

The JW FLV Player supports a single MP3 for audio description:

1. Record descriptions as separate tracks in Audacity
2. Merge them in a new track, in order, via copy/paste
3. Generate silence in between descriptions
  - o Generate > Silence...
4. Export to MP3

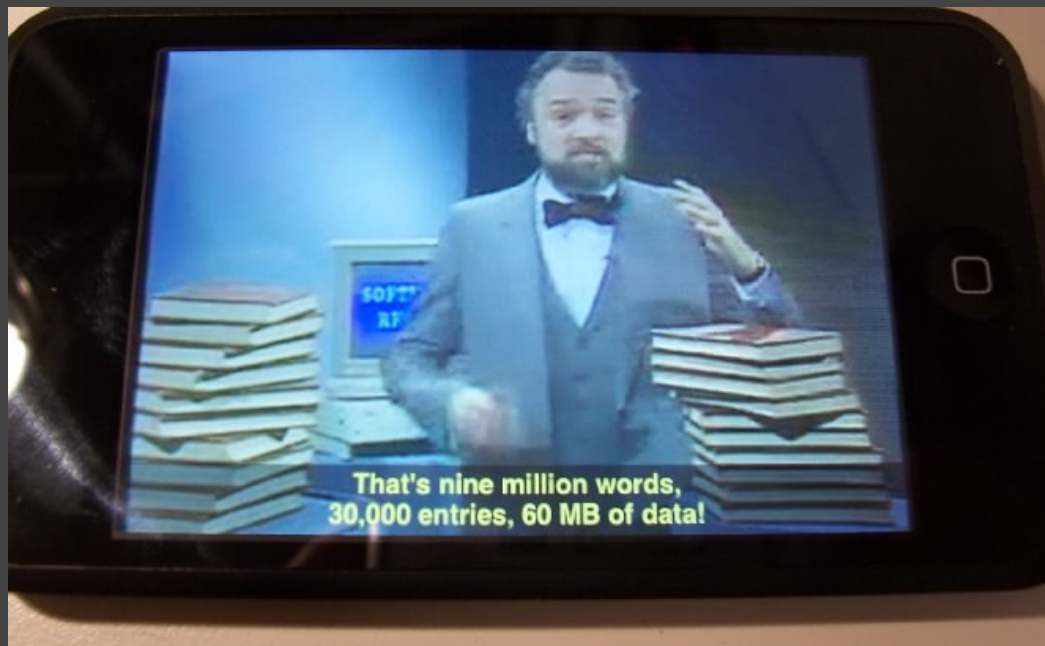
Tip: Use a good headset microphone.

Tip: Follow Joe Clark's standards and techniques.

**Important:** Total length of MP3 should equal movie run time.

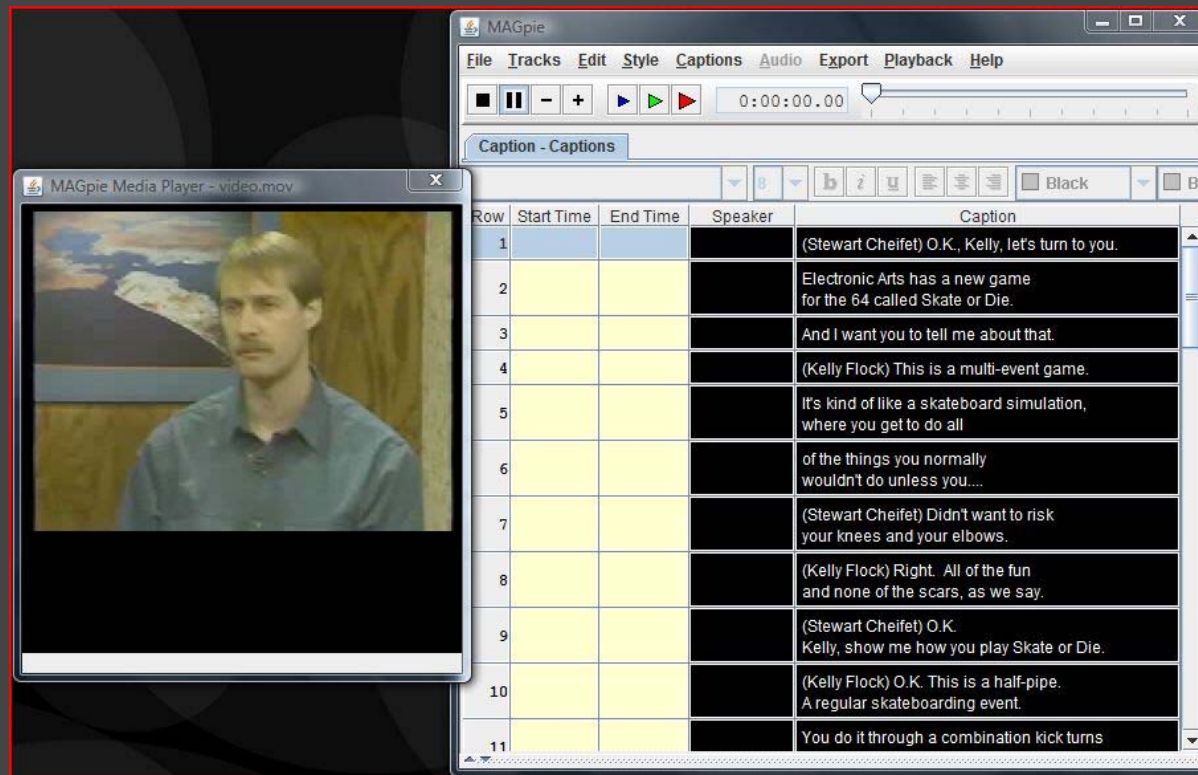
# Demonstration: What You End Up With

- [JW Player Controls](#) : Accessible Flash video for the web
- [example.m4v](#) : "Subtitled" (actually closed-captioned) video for video iPod, iPod Touch, and iPhone



# Using MAGpie to Create DFXP

- File > New Project
- Browse for MOV file (optionally set width and height)
- Create New Project Track : Captions
- Captions > Insert Captions from file...
- Open chunked transcript



The screenshot displays the MAGpie software interface. On the left, a video player window titled 'MAGpie Media Player - video.mov' shows a man speaking. On the right, the main MAGpie window is open, showing a menu bar (File, Tracks, Edit, Style, Captions, Audio, Export, Playback, Help) and a toolbar. Below the toolbar is a 'Caption - Captions' window containing a table with 11 rows of caption data.

Row	Start Time	End Time	Speaker	Caption
1				(Stewart Cheifet) O.K., Kelly, let's turn to you.
2				Electronic Arts has a new game for the 64 called Skate or Die.
3				And I want you to tell me about that.
4				(Kelly Flock) This is a multi-event game.
5				It's kind of like a skateboard simulation, where you get to do all
6				of the things you normally wouldn't do unless you...
7				(Stewart Cheifet) Didn't want to risk your knees and your elbows.
8				(Kelly Flock) Right. All of the fun and none of the scars, as we say.
9				(Stewart Cheifet) O.K. Kelly, show me how you play Skate or Die.
10				(Kelly Flock) O.K. This is a half-pipe. A regular skateboarding event.
11				You do it through a combination kick turns

# Using MAGpie to Create DFXP (continued)

1. Start playback and mark start times for each chunk
  - F6 = play/pause
  - F9 = sets a caption start time
2. Continue through entire movie
3. Review to check timings
4. Export > Adobe Flash - W3C DFXP

```
<?xml version="1.0" encoding="UTF-8"?>
<tt xmlns="http://www.w3.org/2006/04/ttaf1" xmlns:tts="http://www.w3.org/2006/04/ttaf1#styling" xml:lang="en">
  <body>
    <div xml:lang="en">
      <p begin="0:00:00.00" end="0:00:03.37">(Stewart Cheifet) O.K., Kelly, let's turn to you.</p>
      <p begin="0:00:03.37" end="0:00:06.43">Electronic Arts has a new game <br/>for the 64 called Skate or Die.</p>
      <p begin="0:00:06.43" end="0:00:07.53">And I want you to tell me about that.</p>
      <p begin="0:00:07.53" end="0:00:11.99">(Kelly Flock) This is a multi-event game.</p>
      <p begin="0:00:11.99" end="0:00:14.50">It's kind of like a skateboard simulation,<br/>where you get to do
      <p begin="0:00:14.50" end="0:00:16.96">of the things you normally<br/>wouldn't do unless you....</p>
      <p begin="0:00:16.96" end="0:00:18.42">(Stewart Cheifet) Didn't want to risk<br/>your knees and your elbow.
      <p begin="0:00:18.42" end="0:00:20.38">(Kelly Flock) Right. All of the fun <br/>and none of the scars,
      <p begin="0:00:20.38" end="0:00:22.91">(Stewart Cheifet) O.K.<br/>Kelly, show me how you play Skate or Die.
      <p begin="0:00:22.91" end="0:00:26.08">(Kelly Flock) O.K. This is a half-pipe.<br/>A regular skateboarding
      <p begin="0:00:26.08" end="0:00:31.80">You do it through a combination kick turns<br/>of joystick moves
      <p begin="0:00:33.80" end="0:00:36.19">No need to look at the documentation.</p>
      <p begin="0:00:36.19" end="0:00:37.71">(Stewart Cheifet) Oh, whoop! You did that on purpose.</p>
      <p begin="0:00:37.71" end="0:00:44.01">(Kelly Flock) I wish.<br/>I'll try to get up in the air on this one.
      <p begin="0:00:44.01" end="0:00:50.93">(Stewart Cheifet) Alright! Beautiful! Almost!</p>
      <p begin="0:00:50.93" end="0:00:52.93">So, it's a combination<br/>of the joystick and the buttons.</p>
      <p begin="0:00:52.93" end="0:00:55.25">(Kelly Flock) Correct.</p>
      <p begin="0:00:55.25" end="0:00:59.27">(Stewart Cheifet) Oh, nice move!<br/>... however ...</p>
      <p begin="0:00:59.27" end="0:01:03.17">So there are like<br/>12 different moves you can do in here.</p>
      <p begin="0:01:03.17" end="0:01:07.05">And you get points<br/>for the variety of your routine,</p>
      <p begin="0:01:07.05" end="0:01:09.67">and you get bonus points at the end.</p>
```

# Captioned Flash Web Video

In the [JW Player Controls](#) download:

1. Drop in the DFXP (media directory)
2. Convert the MOV to FLV and drop it in
  - Use [QuickTime Professional](#) (\$30)
  - Use [Media-Convert](#) (online, free)
3. Adjust player.html file configuration for your video
4. Upload to web server

DONE!

# "Captioned" m4v for iPod, Touch, iPhone

Start with DFXP and movie in MP4 format. You will need some [scripts](#), which include [MP4Box](#) ([GNU GPL](#)).

You'll find a sample DFXP and MP4 file in the download.

If on a Mac or using Linux, you will need to use the perl source files in the download. Perl users will need two modules: XML::Smart and GetOpt:Long. The Windows executables are self-contained--nothing to install--but you can use perl on Windows, if you like. Try [ActiveState ActivePerl](#) (free).

# "Captioned" m4v (continued)

From the command line, cd to the directory with the scripts, then:

1. Generate SubRip from DFXP:
  - o dfxp2srt.exe captions.xml
2. Generate GPAC TTX from SubRip:
  - o MP4box.exe -ttxt captions.srt
3. Munge GPAC 3GPP TTX to prepare it for inclusion in the Isomedia file (m4v container):
  - o mungettxt.exe -height 240 -width 320 captions.ttxt
4. Generate Isomedia/m4v container (hinted for potential streaming):
  - o MP4Box.exe -hint -add video.mp4 -add captions-munged.ttxt:lang=eng dest.m4v
5. Change m4v so that text track becomes a subtitle track:
  - o m4vtext2sbt.exe dest.m4v

**DONE!!**

# "Captioned" m4v (continued)

## Some Notes:

The last step, changing the m4v container so that it has a subtitle track instead of a text track, can also be achieved by using Apple's `dumpster.exe`. See the [NCAM handheld captioning solutions tutorial](#) for the link to Dumpster. Their tutorial also covers adding multiple language tracks:

## Using Dumpster:

- drag `dest.m4v` file onto dumpster
- open moov -> third 'trak' -> 'mdia' -> 'hdlr'
- select and change value for "Component subtype" to `$7362746c` ('sbtl' from 'text')
- click Apply

Something else you can do with the SubRip file: upload captions to Google Video and YouTube. SubRip is the main format for captions in Google Video and YouTube.

# Questions?

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