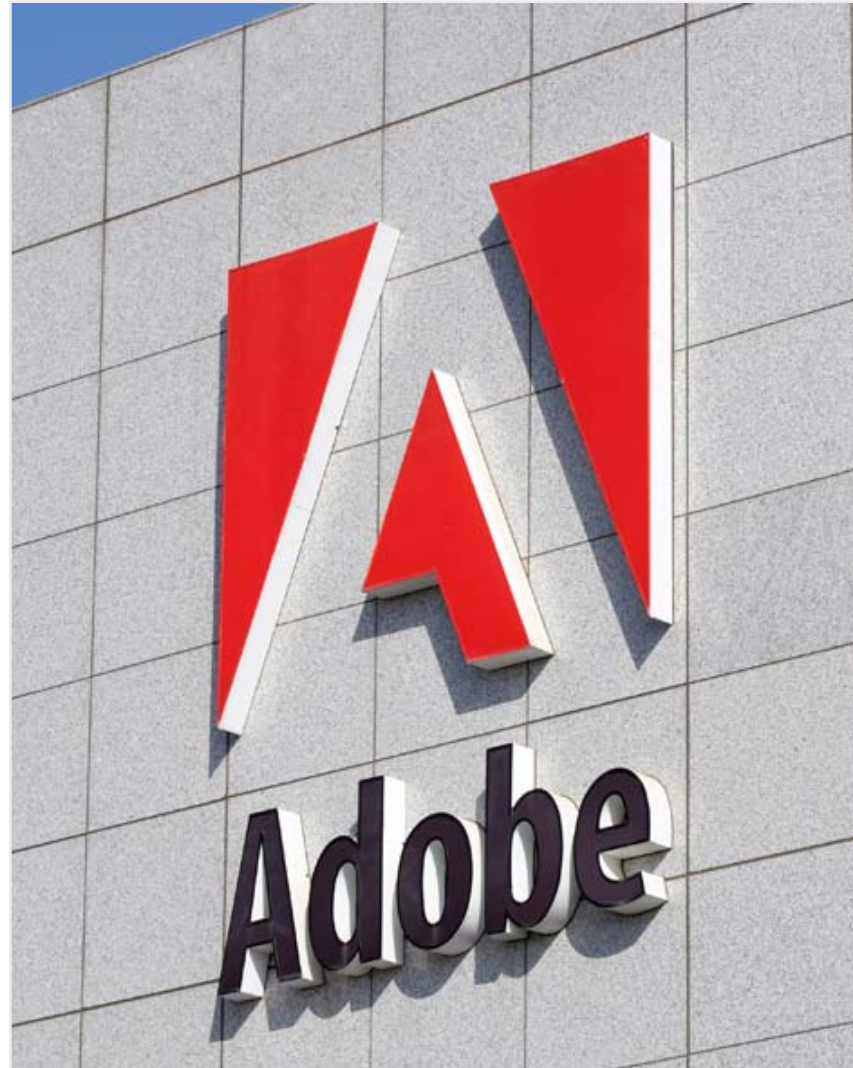


Accessible Internet Video

Andrew Kirkpatrick

Adobe Systems

akirkpat@adobe.com



What is Needed?

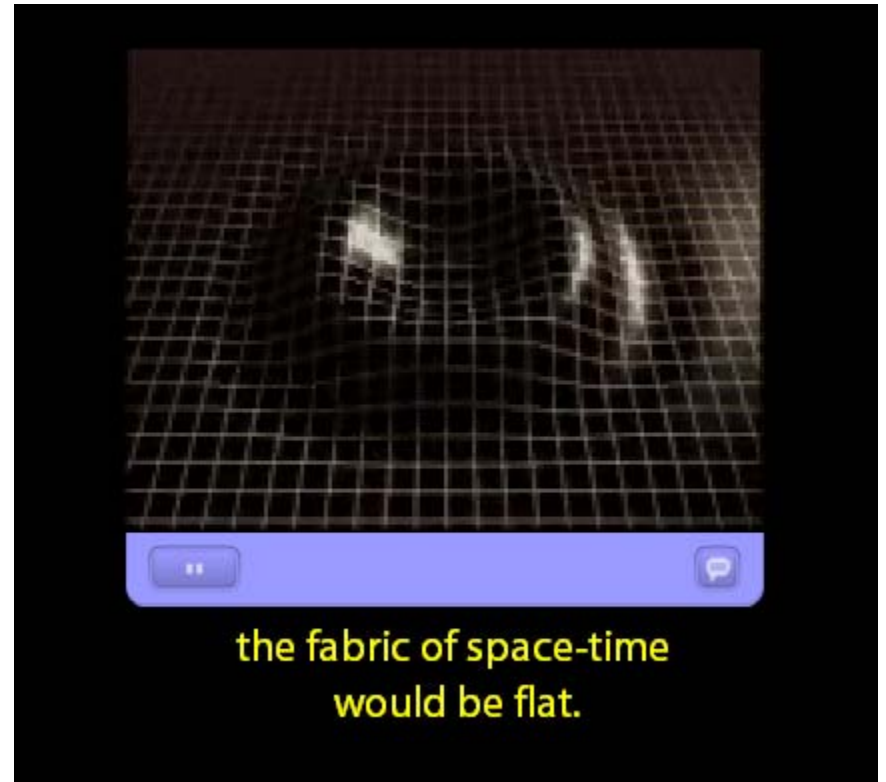
- Captions
- Subtitles
- Full screen captions/subtitles
- Audio description (video description)
- Keyboard accessible user interface
- Screen reader accessible user interface
- Screen magnifier accessible user interface
- Access to content for users who are deaf-blind
- And possibly...
 - Ability to pause video when loaded
 - Shortcuts to important functions
 - Visual appeal
 - Searchability

Flash Does Captions?

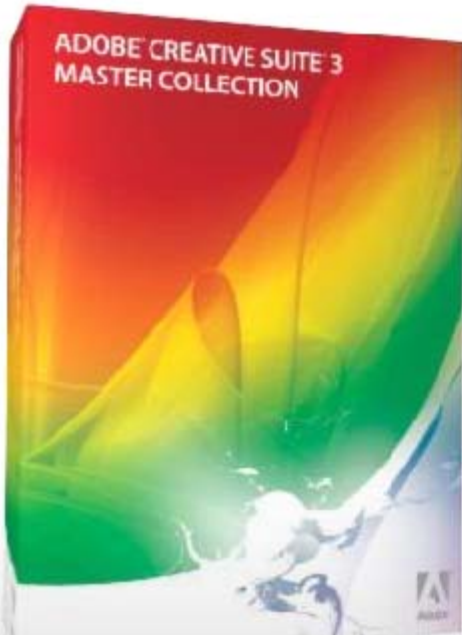
- Flash has always been able to deliver text equivalents to audio.
- Improvements in Flash Player 6 for parsing XML brought new possibilities.
- Flash CS3's support for the W3C's DFXP Captioning standard formalizes the procedure.

Flash Does Audio Description?

- Flash provides robust support for sound playback and synchronization.
- Developers need to add a UI control to support the toggling of audio descriptions.
- With Flash Player's ability to detect assistive technologies, such a button can be enabled by default when a screen reader is running, and the video can be paused so that the user could start it when ready.



Accessible Video Demonstration



PRESS "D" TO TOGGLE DESCRIPTIVE AUDIO

ENGLISH ESPAÑOL 日本語

A video player interface showing a student in a dark shirt sitting at a desk in a computer lab. The student is looking at a computer monitor displaying a 3D animation of a tree. The student is also looking at a book on the desk. The video player has a progress bar and various control icons at the bottom.

STUDENT: Studying animation here at USC

▶ ■ [Progress Bar] 🔊 🔍 📄 🗨️ D

Who Benefits?

- Captioning helps people who are
 - Deaf
 - Hard of Hearing
 - In a noisy environment (e.g. manufacturing floor)
 - In a quiet environment (e.g. office building)
 - Watching video with poor audio quality
 - Able to process information better when read
- Video description helps people who are
 - Blind
 - Visually impaired
 - Able to better understand video information with audio support

Why Do Captions?

- Users need captions for access
- U.S. Federal Government legislation
 - 1194.24(c) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, **shall be open or closed captioned.**
- Standards for accessibility in many countries around the world require that produced audio and video content is captioned.

Support for Captioning

- MIT OpenCourseWare 2005 Evaluation:

“most visitors accessing video lectures (76%) find them to be significantly more valuable or more valuable than other types of content”

“54% of visitors accessing video lectures indicate that transcripts of lectures would be equally valuable or more valuable than video lectures;”

“59% indicate that audio lectures with synchronized lecture notes would be equal or more valuable than video lectures.”


“40% of visitors accessing video lectures indicate that English captioning would add value, and 17% indicate that captioning in another language would add value.”

Source: http://ocw.mit.edu/ans7870/global/05_Prog_Eval_Report_Final.pdf

Flash Captioning Examples – CNET TV



Home Product Videos CNET Tech Shows News Videos How-To Videos Music Videos



Let me show you about a handful of my favorite cars here at Geneva and not one

1:26

Today's Picks

Name	Release date
Smartphones: RIM BlackBerry Pearl 8120 (AT&T)	
Music: Best of SXSW: Rock and country	
Digital Cameras: Canon PowerShot SD1100 IS	
Video: Tekzilla Daily: Firefox URL...	
CNET Live: CNET Live: March 13, 2008	
Auto shows: Cars we drool over	3/12/2008
Digital Camcorders: Canon Vixia HV20	

Download | Get link | Digg it

1 - 10 of 10 videos

Flash Captioning Examples – Library of Congress

The LIBRARY of CONGRESS ◀ BACK to Exploring the Early Americas

READING PRE-COLUMBIAN ARTIFACTS 🏠 HOME

OVERVIEW

Writing was independently invented in five areas of the ancient world: Mesopotamia, Egypt, China, the Indus Valley, and Mesoamerica. Of these, the Maya glyphic system stands out for its creation of syllabic and pictorial writing, in the most visually diverse scripts ever conceived. The writing was recorded on a wide variety of media that include ceramics, stone, wood, shell, textiles, animal hides, and screen-fold codex books. Although most of the materials are lost forever due to decay and destruction, much of this priceless literary cultural heritage survives on Maya vessels and artifacts.

◀ BACK



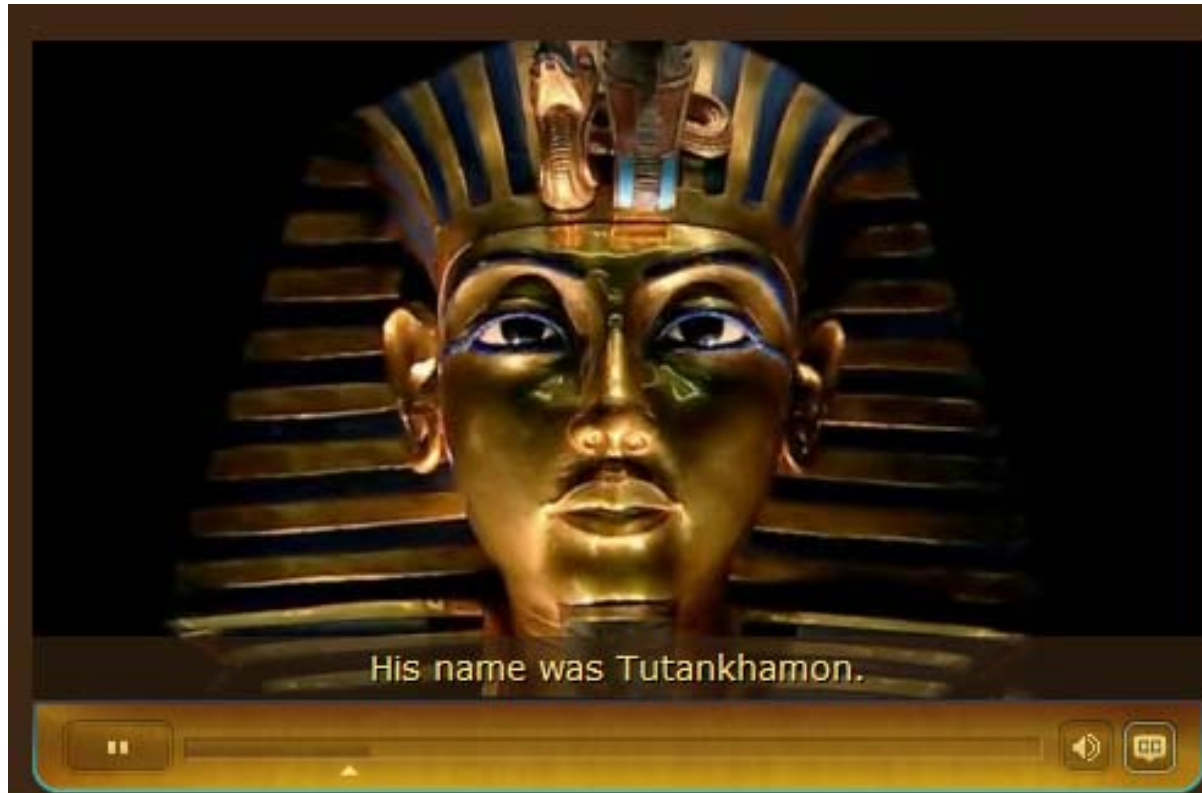
Archeologists use artifacts to gain information about ancient societies.

OVERVIEW

⏸ 🔊 CC

Robert Sharer
Shoemaker Professor of Anthropology
University of Pennsylvania

Flash Captioning Examples – King Tut Exhibit

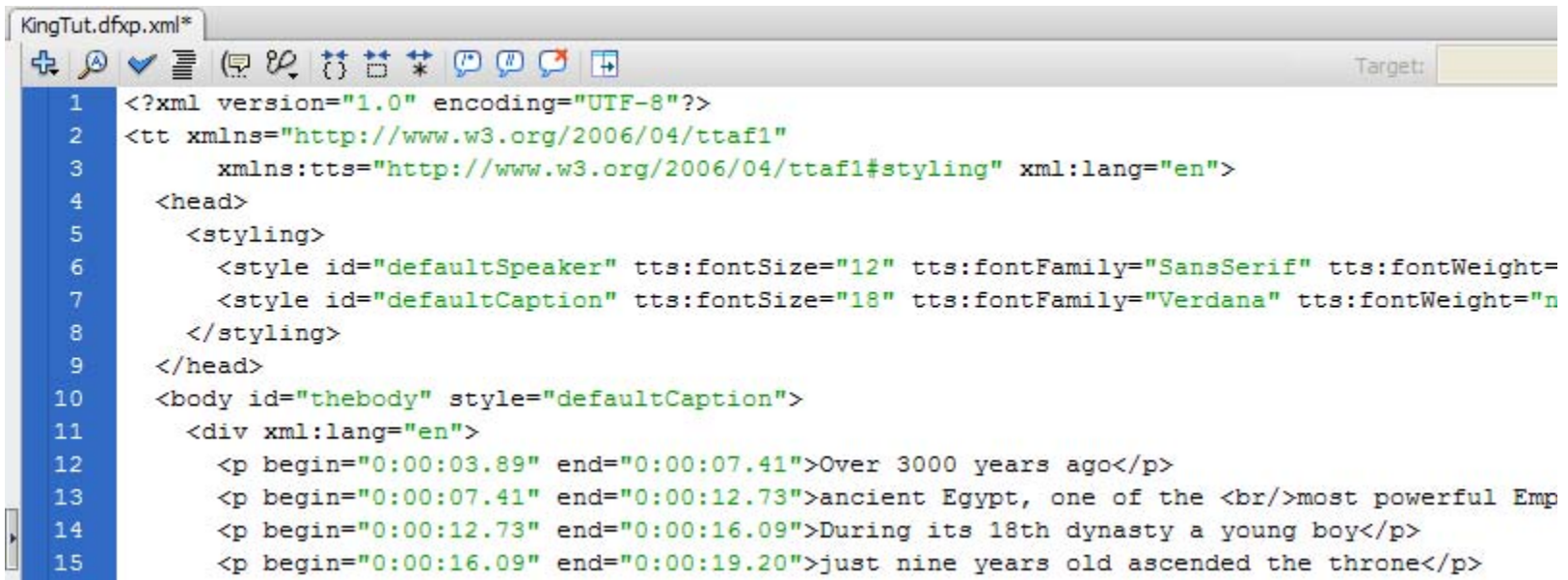


Captions in 5 Minutes

- Support for Captioning in CS3 has made captioning video in Flash really simple.
- So simple, in fact, that anyone with minimal experience with FLVPlayback can have captions functioning in under 5 minutes.
- Demonstration: Ready, Set, Go!

How Does Captioning Work in Flash?

- The FLVPlaybackCaptioning component supports two methods
 - Embedded caption data in cue points
 - Parsing DFXP caption data and creating ActionScript cue points, by TimedTextManager
 - Cue points are triggered at specific times and displayed



The screenshot shows a code editor window titled 'KingTut.dfxp.xml*'. The editor displays XML code for a DFXP file. The code is as follows:

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <tt xmlns="http://www.w3.org/2006/04/ttaf1"
3     xmlns:tts="http://www.w3.org/2006/04/ttaf1#styling" xml:lang="en">
4   <head>
5     <styling>
6       <style id="defaultSpeaker" tts:fontSize="12" tts:fontFamily="SansSerif" tts:fontWeight=
7       <style id="defaultCaption" tts:fontSize="18" tts:fontFamily="Verdana" tts:fontWeight="n
8     </styling>
9   </head>
10  <body id="thebody" style="defaultCaption">
11    <div xml:lang="en">
12      <p begin="0:00:03.89" end="0:00:07.41">Over 3000 years ago</p>
13      <p begin="0:00:07.41" end="0:00:12.73">ancient Egypt, one of the <br/>most powerful Emp
14      <p begin="0:00:12.73" end="0:00:16.09">During its 18th dynasty a young boy</p>
15      <p begin="0:00:16.09" end="0:00:19.20">just nine years old ascended the throne</p>
```

**If captioning is so easy, why
isn't everyone doing it today?**

Getting Caption Data

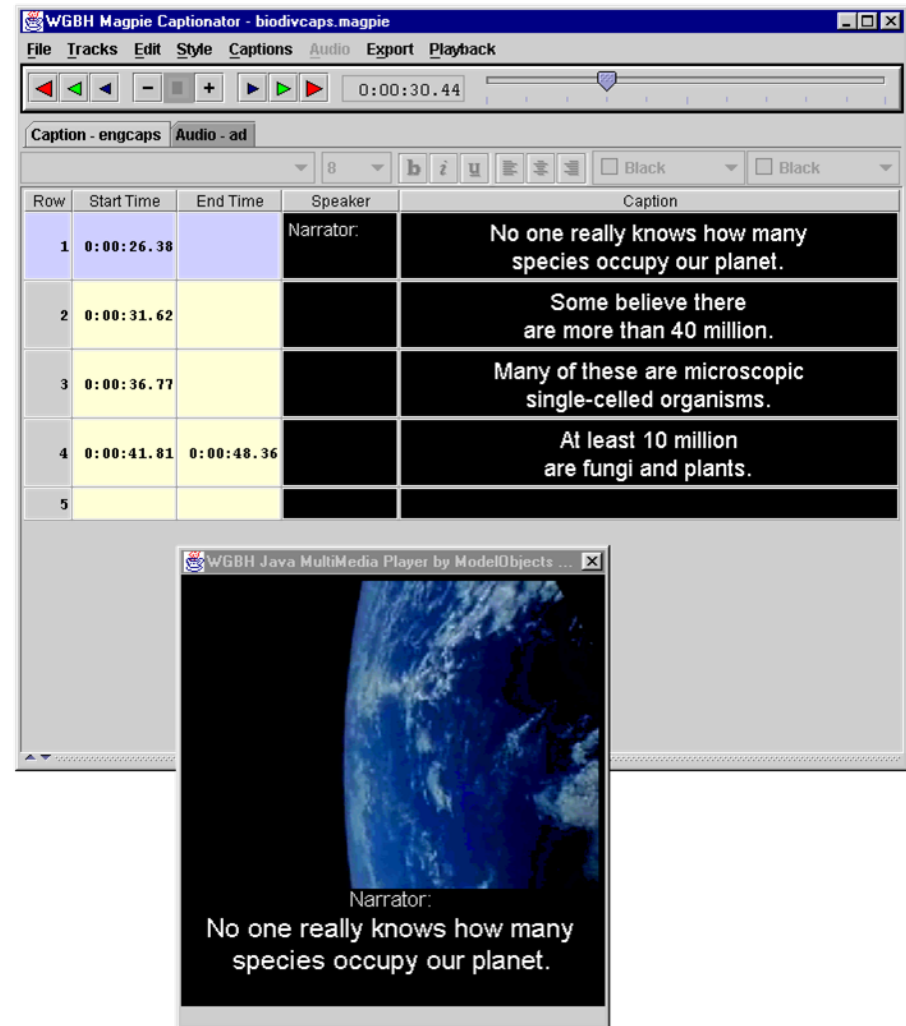
- ***"I Want To Do It Myself"***
 - Several tools allow authors to add captions
 - MAGpie (<http://ncam.wgbh.org/webaccess/magpie>)
 - HiCaption (<http://www.hisoftware.com>)
 - Captionate (<http://www.captionate.com>)
- ***"Can't Someone Else Do It?"***
 - Professional agencies deliver the highest quality of work
- ***"The Faculty is Generating 14 Hours of Video Daily"***
 - Automated solutions exist, and should be considered
 - Automatic Sync Technologies (<http://www.automaticsync.com/>)

“I Want To Do It Myself”

- Captioning takes a lot of time
 - Fussy, detailed work
 - Necessary to review work for accuracy and grammar
 - Requires an understanding of “Non-spoken information” and how to convey it in captions
- Estimate 5-10x the length of the video
 - Transcription is the most time consuming
 - Captioning and review is done in real time (2-4x)
- Examples
 - 5 minute video: Captioning time – 25 minutes to 1 hr.
 - 15 minute video: Captioning time – 1.25 to 2.5 hours
 - Library of 50 10-minute videos: 40 to 80 hours (no breaks!)

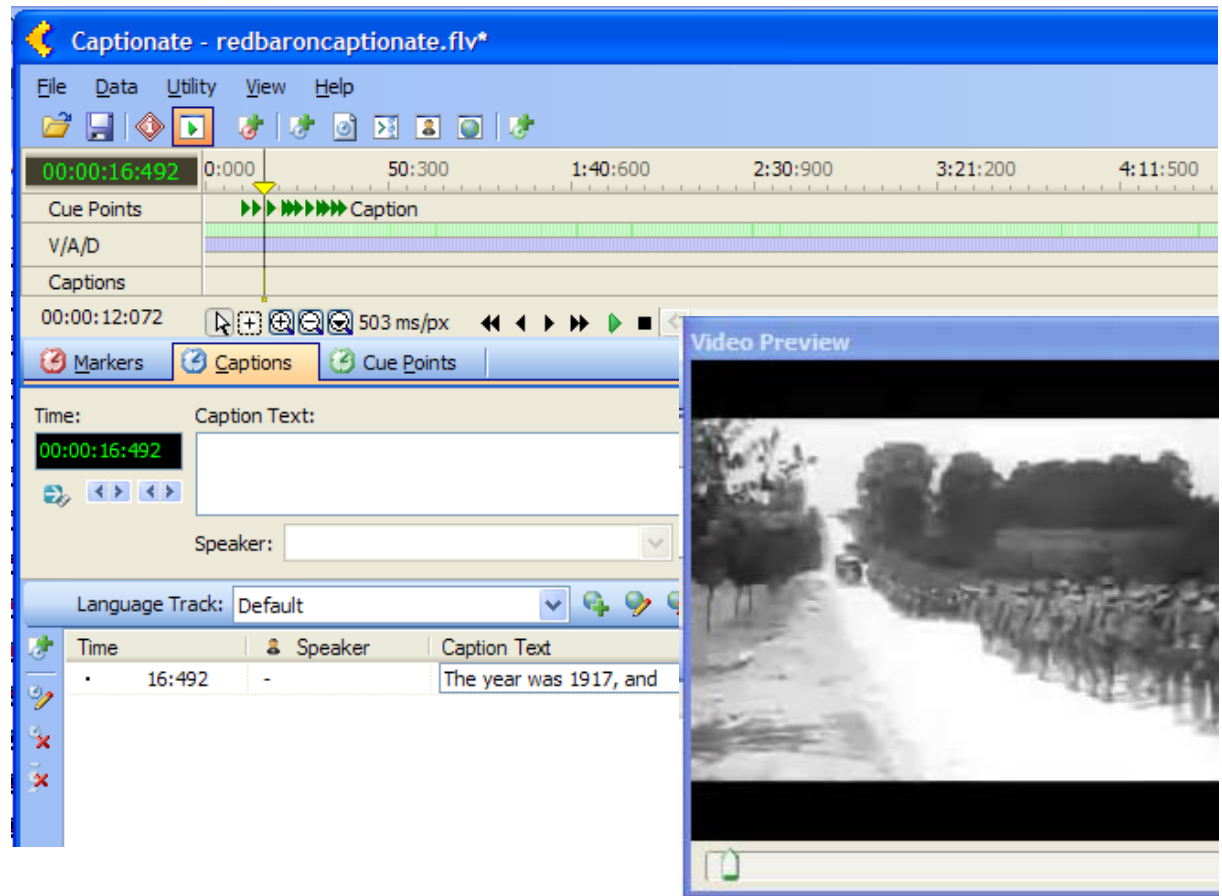
"I Want To Do It Myself" - MAGpie

- MAGpie is an authoring tool for creating captions and saving in formats for:
 - QuickTime
 - RealPlayer
 - Windows Media Player
 - CC for Flash (NCAM Flash Captioning component)
- Updated version 2.0.2 outputs DFXP (subset)
- Freely distributed by NCAM:
ncam.wgbh.org/webaccess/magpie



"I Want To Do It Myself" - Captionate

- Captionate is an inexpensive Captioning tool (\$60)
- Captionate allows the author to add FLV cue points to the video
- Captionate also generates DFXP caption data



"Can't Someone Else Do It?"

- Professional agencies can provide caption data files for Flash
 - DFXP files are easy to produce and widely supported.
- Captioning Agencies
 - Media Access Group at WGBH
 - Caption Colorado
 - Full list at [Adobe accessibility site](#)



"The Faculty is Generating 14 Hours of Video Daily"

- Automatic Sync Technologies provides automated web-based Captioning for Flash
 - AST's goal is to make Captioning fast, cheap, and easy
 - With a transcript, AST's CaptionSync automated system quickly creates XML caption data files for a variety of media
- www.automaticsync.com/caption

AUTOMATIC SYNC
TECHNOLOGIES

References:

http://blog.lib.umn.edu/mcfa0086/mediamill/2007/05/did_someone_say_Captioning.html

http://speaking.stanford.edu/Back_Issues/SOC73/highlights/Captioned_Video_Project.html

Sign Language Support is Possible



Accessible User Interface

- Flash provides the ability to offer accessible interface controls
 - Keyboard users
 - Screen reader users
 - Screen magnifier users
- This capability is unique among embedded video players

Accessible User Interface

Inspect (32-bit UNICODE Release) (HWND: 0x...

File Edit Options Navigation Action Help

How found: Mouse move (931,578)
Info: hwnd=0x000B0548 32bit class="MacromediaFlashPlayerActiveX"
IAcc = 0x0018071C VarChild:[VT_I4=0x0]
Interfaces: IEnumVARIANT IOleWindow
Impl: Remote native IAccessible
Annotation ID: [not supported]

Name: "Welcome Message"
Value: none [mrfd]
Role: client
State: focused, focusable
Location: {l:654, t:209, w:389, h:421}
Description: none [mrfd]
Kbshortcut: none [mrfd]
DefAction: none [mrfd]
Parent: none [screen]
Help: none [mrfd]
Help Topic: none [mrfd]
ChildCount: 6
Window: 0x000B0548 class="MacromediaFlashPlayerActiveX" style=0x560
Children: none [mrfd] : animation : normal
"OVERVIEW" : text : read only
"Pause" : push button : focusable
"Robert Sharer
Shoemaker Professor of Anthropology
University of Pennsylvania" : text : read only
"Volume Mute On" : push button : focusable
"Hide Captions" : push button : focusable
Selection: none [mrfd]
Ancestors: [No Parent]

COLUMBIAN ARTIFACTS HOME

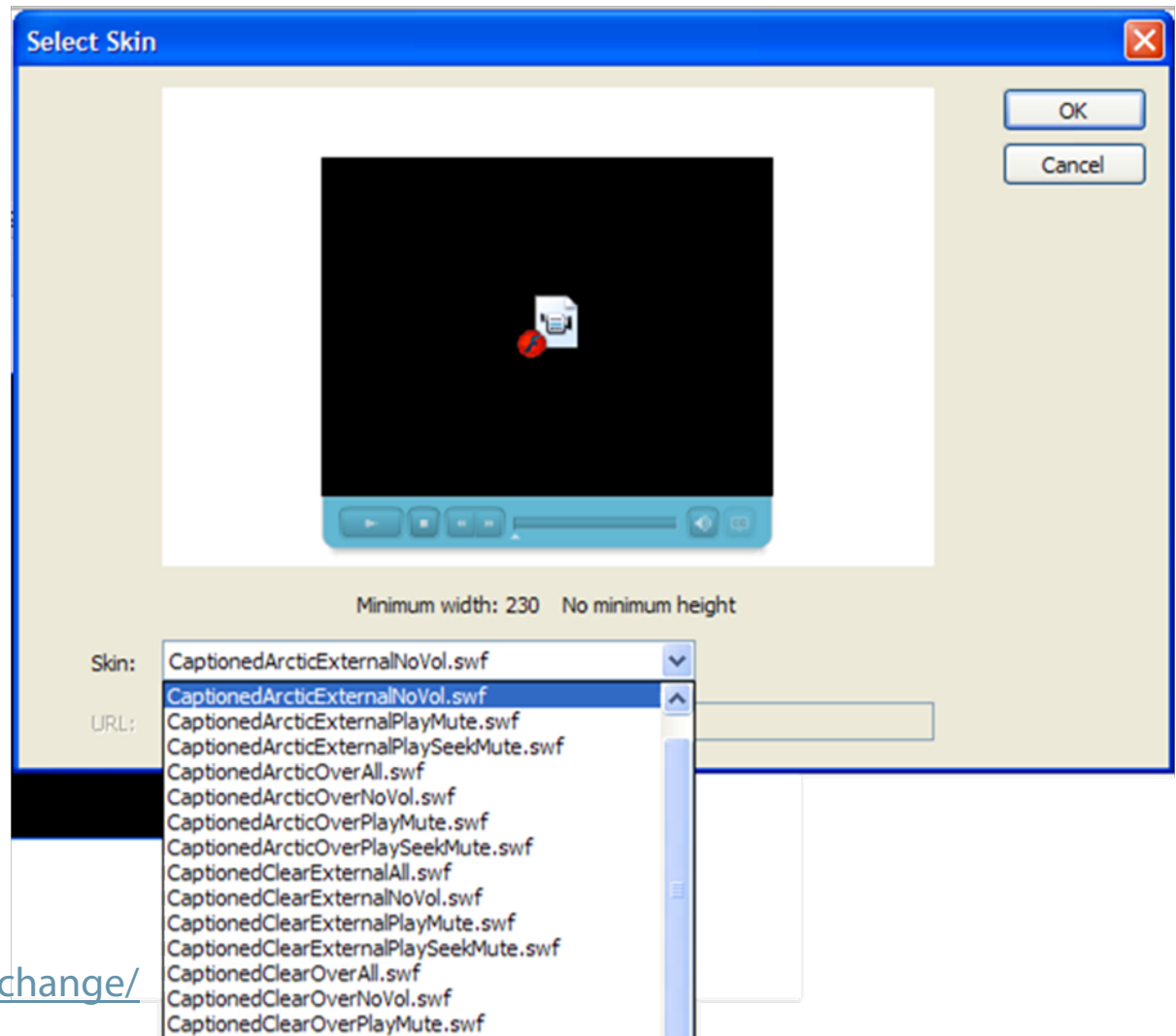
There are artifacts with both images and writing, like books with illustrations.

OVERVIEW

Robert Sharer
Shoemaker Professor of Anthropology
University of Pennsylvania

ActionScript 2.0 Skins Also Available

- Free extension for Flash 8 and Flash CS3
 - Displays DXFP Caption Data
 - Displays embedded cue points
 - Highly configurable
 - UI accessible to screen reader users
- Demonstration



<http://www.adobe.com/cfusion/exchange/>

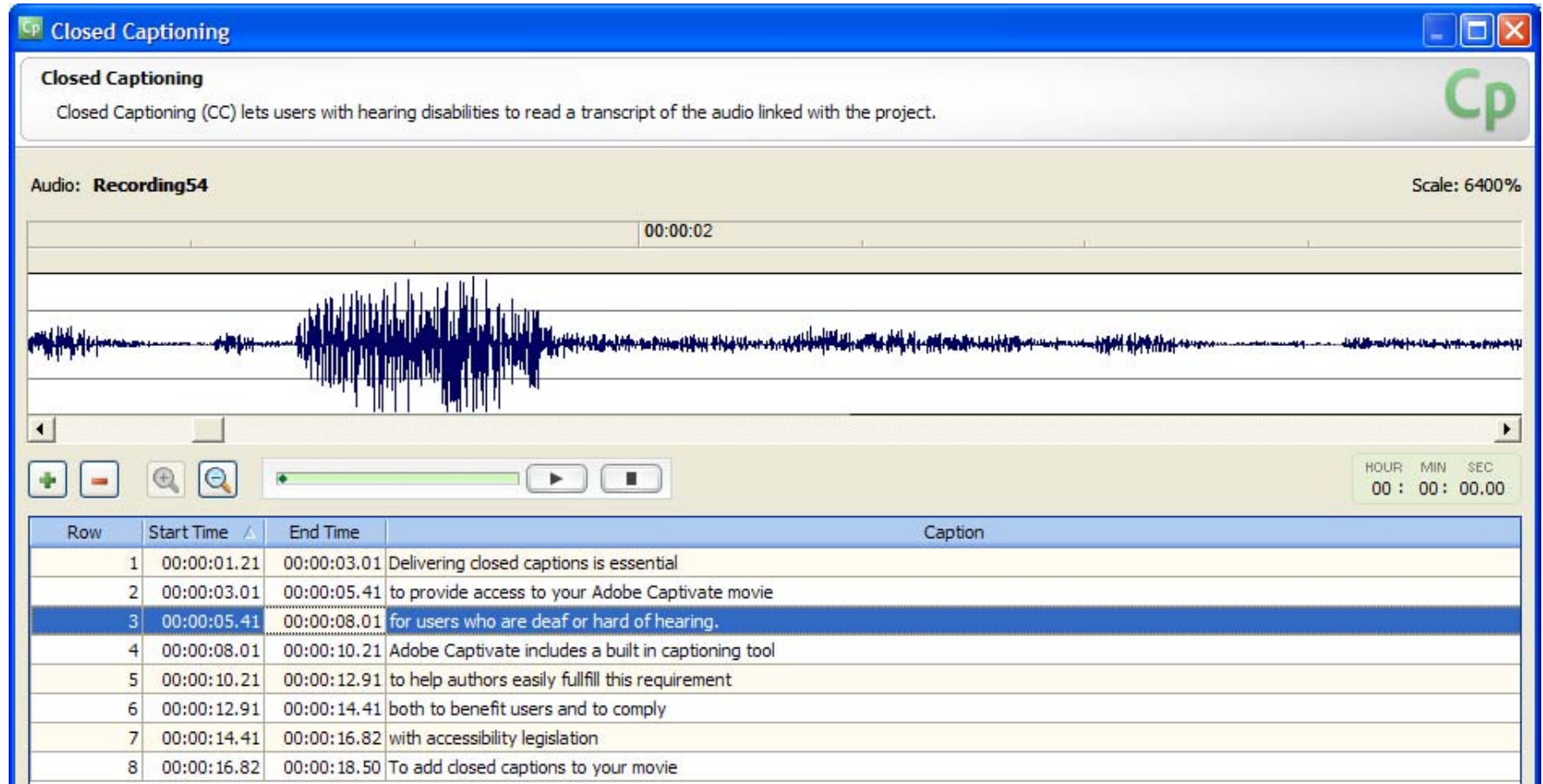
Can't Someone Make an Accessible Flash Interface for Me?

If you don't have the Flash Authoring tool, you can use these to get support for captions and an accessible interface:

- CC for Flash
 - <http://ncam.wgbh.org/webaccess/ccforflash>
- JW FLV Player
 - <http://jeroenwijering.net>

Captioning in Adobe Captivate

Adobe Captivate provides a built-in captioning tool and generates the interface automatically.



Closed Captioning

Closed Captioning (CC) lets users with hearing disabilities to read a transcript of the audio linked with the project.

Audio: **Recording54** Scale: 6400%

00:00:02

00 : 00 : 00.00

Row	Start Time	End Time	Caption
1	00:00:01.21	00:00:03.01	Delivering closed captions is essential
2	00:00:03.01	00:00:05.41	to provide access to your Adobe Captivate movie
3	00:00:05.41	00:00:08.01	for users who are deaf or hard of hearing.
4	00:00:08.01	00:00:10.21	Adobe Captivate includes a built in captioning tool
5	00:00:10.21	00:00:12.91	to help authors easily fulfill this requirement
6	00:00:12.91	00:00:14.41	both to benefit users and to comply
7	00:00:14.41	00:00:16.82	with accessibility legislation
8	00:00:16.82	00:00:18.50	To add closed captions to your movie

Resources

Adobe Links

- Adobe Accessibility Resource Center
adobe.com/accessibility
- Adobe Accessibility Blog
blogs.adobe.com/accessibility
- Flash Captioning information
<http://www.adobe.com/accessibility/products/flash/captions.html>
- Flash Captioning DevNet Article
http://www.adobe.com/devnet/flash/articles/video_captionate.html

DFXP

- W3C DFXP (Distribution Format Exchange Profile)
<http://www.w3.org/TR/2006/CR-ttaf1-dfxp-20061116>

Q & A



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