Accessibility of Open Course Library Materials

Terrill Thompson
Technology Accessibility Specialist
tft@uw.edu
Students are diverse
In order to be accessible, web content must be:

- Perceivable
- Operable
- Understandable
- Robust

Standards and Guidelines

- W3C Web Content Accessibility Guidelines 2.0
- W3C Accessible Rich Internet Applications (ARIA) 1.0
- Section 508 Standards (federal law)
- Draft Information and Communication Technology (ICT) Standards and Guidelines (508 refresh)
- http://access-board.gov/508.htm
7 Examples of Common Web Accessibility Problems

1. Images without alternate text
2. Poor use of HTML headings
3. No accessible markup on form fields
4. No accessible markup on data tables
5. No text alternatives on multimedia
6. Navigation menus or other content that requires a mouse
7. PDF’s not authored for accessibility
Learn More About Accessible Web Design

- Accessible University 2.0
- "Before" and "after" mock site with 16 accessibility problems and solutions
- http://uw.edu/access computing/AU
Characteristics of HTML

• Highly structured language
• Possible for authors to create highly structured documents
• Possible for authors to create documents with little or no structure
• Structure is well-supported by AT
• Structure facilitates navigation for AT users (and has many other advantages)
Characteristics of Microsoft Word

• Heading structure possible through *styles and formatting*
• Alternate text can be added to images.
• No HTML-like accessible table structure
• Structural information (e.g., headings, alternate text) is communicated to AT
• Most structure is passed on to other file formats when documents are exported
Adobe PDF

- Three general types:
  - Image
  - Image with embedded fonts
  - Tagged (optimized for accessibility)

- Accessibility depends on how document was created

- Accessibility can be added later using Adobe Acrobat Pro
What about Video?
Video *can be* inaccessible to:

- People who are unable to hear it
- People who are unable to see it
- People who are unable to do either
- People who are unable to operate the player controls
- People who need to search video content
- People who don’t speak the language
How to Add Captions

1. Create a transcript
2. Divide the transcript into caption-sized segments (optional, depending on choice of tool in #3)
3. Use a captioning tool to timestamp the caption-sized segments
4. Save to an output file that is appropriate for your media type
Captioning Tools

• Free Software
  – MAGpie (Win & Mac), SubTitle Workshop (Win), World Caption (Mac), CapScribe (Mac)

• Commercial Software
  – HiCaption (Win), MovCaptioner (Mac)

• Free Online Tools
  – dotSub, Subtitle Horse, CaptionTube

• See my blog:
  Free Tools For Captioning YouTube Videos
Transcribe Invisible Disabilities and Postsecondary Education

Click here to watch a tutorial on transcribing videos

<table>
<thead>
<tr>
<th>Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:10</td>
<td>specific chemicals.</td>
</tr>
<tr>
<td>10:18</td>
<td>Students with disabilities have the right to confidentiality.</td>
</tr>
<tr>
<td>10:20</td>
<td>If a student appears to be struggling in class but hasn't requested accommodations</td>
</tr>
<tr>
<td>10:25</td>
<td>the professor is not advised to ask if a disability is involved.</td>
</tr>
<tr>
<td>10:29</td>
<td>But there are acceptable ways to offer assistance.</td>
</tr>
<tr>
<td>10:39</td>
<td>A very good plan is to include a statement on your class syllabus</td>
</tr>
<tr>
<td>10:54</td>
<td>A very good plan is to include a statement on your class syllabus</td>
</tr>
</tbody>
</table>

Keyboard Shortcuts

<table>
<thead>
<tr>
<th>Action</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toggle Play / Pause</td>
<td>CTRL + SHIFT + P</td>
</tr>
<tr>
<td>Seek Ahead +1 Second</td>
<td>CTRL + SHIFT + →</td>
</tr>
<tr>
<td>Seek Back -1 Second</td>
<td>CTRL + SHIFT + ←</td>
</tr>
<tr>
<td>Set Caption Start Time</td>
<td>CTRL + SHIFT + ↑</td>
</tr>
<tr>
<td>Set Caption End Time</td>
<td>CTRL + SHIFT + ↓</td>
</tr>
</tbody>
</table>

Add a transcription line

<table>
<thead>
<tr>
<th>Time</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:54</td>
<td></td>
</tr>
<tr>
<td>10:57</td>
<td></td>
</tr>
</tbody>
</table>
Flavors of Closed Captions

- Quicktime – SMIL, with captions in qt.txt
- Real – SMIL, with captions in rt.txt
- Windows – SAMI
- YouTube – SubRip, SubViewer
- W3C Timed Text - Distribution Format Exchange Profile (DFXP)
- Apple i* - Scenarist Closed Caption (SCC)
A generation ago, personal computers began to make their mark on the world. It was the beginning of an incredible change.
(Narrator) Lindsay's a high school sophomore, but she's already thinking about career options.

(Lindsay) Science and math are probably what I would want to go into, as a, you know,

a career, when I'm out of college.
Example Output in W3C Timed Text DFXP (.tt.xml)

<?xml version="1.0" encoding="UTF-8"?>
<tt xml:lang="en" xmlns="http://www.w3.org/2006/10/ttaf1"
    xmlns:tts="http://www.w3.org/2006/04/ttaf1#styling">
    <head>
        <styling>
            <style id="1" tts:textAlign="center" />
        </styling>
    </head>
    <body>
        <div xml:id="captions" xml:lang="en">
            <p begin="00:00:25.891" end="00:00:28.396">Your website’s visitors aren’t a faceless mass</p>
            <p begin="00:00:28.396" end="00:00:31.363">of identical mouse-clickers, but a vibrant community</p>
            <p begin="00:00:31.363" end="00:00:31.363">of individuals with varying tastes, styles, and abilities.</p>
        </div>
    </body>
</tt>
Uploading Captions to YouTube
these exposed vents of volcanic gases pouring out, exposing the molten red lava,
Semi-Automatic Captioning Tools

• Upload a transcript, automatically convert that into captions:
  – YouTube
  – Caption Sync (Automatic Sync Technologies)
  – Docsoft
Adding Closed Captions for Apple i*

- iPhones and iPods support closed captions via .scc format
- Requires many steps, either in:
  - Apple Final Cut Pro ($999)
  - Apple QuickTime Pro ($30), Mac version only
- “Creating Accessible iTunes U Content” (NCAM) [http://ncam.wgbh.org/about/news/creating-accessible-itunes](http://ncam.wgbh.org/about/news/creating-accessible-itunes)
Sample Closed Captioned Video on iPhone

"Yeah, we’re going to make energy from cow manure."

Video clip compliments of NCAM:
http://ncam.wgbh.org/mm/samples.html
Audio Description

• Various names:
  • Audio description
  • Video description
  • Descriptive Video™
  • Descriptive narration
  • Described video
• A separate narrative track, for people who can’t see critical visual content
How to avoid audio description

• Assure that all important information is communicated visually \textit{and} audibly

• If video is a lecture, always be mindful that not everyone in the audience can see. Applies broadly:
  • Live lectures, people in the back can’t see
  • Audio-recorded lectures, nobody can see
  • Video-recorded lectures, many people can’t see
How to *add* Audio Description

• Carefully script audio description:
  – Choose words carefully so as not to distort the message
  – Find suitable moments for inserting audio (avoid conflicts with existing dialog or important sounds)
• Record audio description segments
• Output 1: Remix audio track to include audio description
• Option 2: Save as audio file. Let the media player sync it with the video (not widely supported)
these exposed vents of volcanic gases pouring out, exposing the molten red lava,
JW FLV Player as used at
http://uw.edu/doit/video/search
Video made simple: HTML 5

<video src="myvideo.ogv">
</video>

Accessibility in HTML5 is a work in progress. Stay tuned to my blog: terrillthompson.blogspot.com
HTML5 `<video>` tag as used in DRAFT DO-IT Video Search Update

We communicate across cubicles and across country with equal speed.

Captions in:
- English
- 日本語
Resources

• My blog: Accessible Documents in HTML, Word, and PDF
  – http://tinyurl.com/ttdocs

• WebAIM
  – Creating accessible Microsoft Word docs
    http://www.webaim.org/techniques/word
  – PDF Accessibility
    http://www.webaim.org/techniques/acrobat/

• California State University PDF Tutorials
  – http://tinyurl.com/y2dnyl2
Resources

• Adobe Accessibility:
  – http://www.adobe.com/accessibility/

• DO-IT
  http://washington.edu/doit

• AccessComputing
  http://washington.edu/accesscomputing

• These slides
  http://staff.washington.edu/tft
Questions?