CSC 170 Introduction to Web Development

Eustrat Zhupa

University of Rochester

Containers & Codecs

Container

- elements designed to hold or display different types of media, like images, videos, and audio.

Codec

- An algorithm that compresses and decompresses digital media files

HTML5 audio & video

- Native to the browser

- *ISSUE:* Browsers do not all support the same codecs

    – https://caniuse.com/

Common Audio File Types

- *.wav*   Developed by Microsoft and IBM, often used for high-quality, uncompressed audio files.

- *.aiff*   Audio Interchange File Format, developed by Apple, used for high-quality, uncompressed audio.

- *.mid*   contain a series of digital instructions that tell compatible devices/software how to play music

- *.mp3*   widely used, known for its balance of good quality and small file size.

- *.ogg*   Vorbis codec, open-source, patent-free format that delivers high-quality sound

Common Video File Types

.avi   Microsoft, one of the oldest video formats and can hold uncompressed or compressed data.

.av1   Alliance for Open Media (open-source)

.wmv   Windows Media File, popular for streaming on Windows

.mpg   older video format used for DVDs and broadcast television

.mp4   (MPEG-4) widely used video formats, suitable for a wide range of devices and platforms.

.mov   Apple, often used for high-quality video

.webm   Google, open-source format, optimized for web and used for HTML5 video

Copyright Issues

- Only publish web pages, images, and other media that you have personally created or have obtained the rights or license to use.

- Ask permission to use media created by another person instead of simply "grabbing" it.

- All work (including web pages) are automatically copyrighted even if there is not copyright mark or date.

- Fair Use Clause of the Copyright Act

- Creative Commons – A new approach to copyright

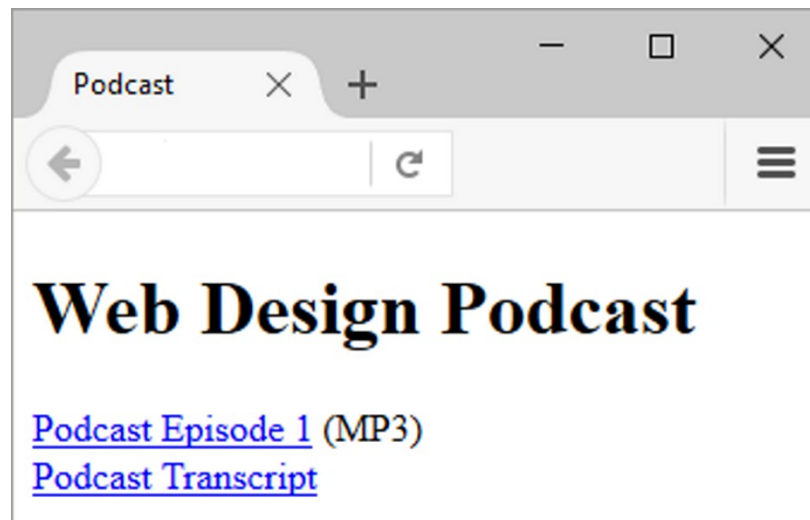# Multimedia & Accessibility

Provide alternate content

- Transcript (for audio)

- Captions (for video)

- Text format

Configure Audio & Video

Hyperlink

The most basic method to provide audio or video files

Web Design Podcast

The default MP3 player will launch in the browser when the visitor clicks on Podcast Episode 1

Audio Element

The <audio> element supports native play of audio files in the browser.

<audio> … </audio>

- supply multiple versions of the file

- at least two different containers, including *OGG* and *MP3*

HTML5 Audio & Source Elements

Attribute	Value	Description
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready
controls	controls	Specifies that audio controls should be displayed (such as a play/pause button etc)
loop	loop	Specifies that the audio will start over again, every time it is finished
muted	muted	Specifies that the audio output should be muted
src	*URL*	Specifies the URL of the audio file

HTML5 Audio & Source Elements

```
<audio controls>

  <source src="soundloop.mp3" type="audio/mpeg">

  <source src="soundloop.ogg" type="audio/ogg">

  <a href="soundloop.mp3">Download the Audio File</a>

</audio>
```
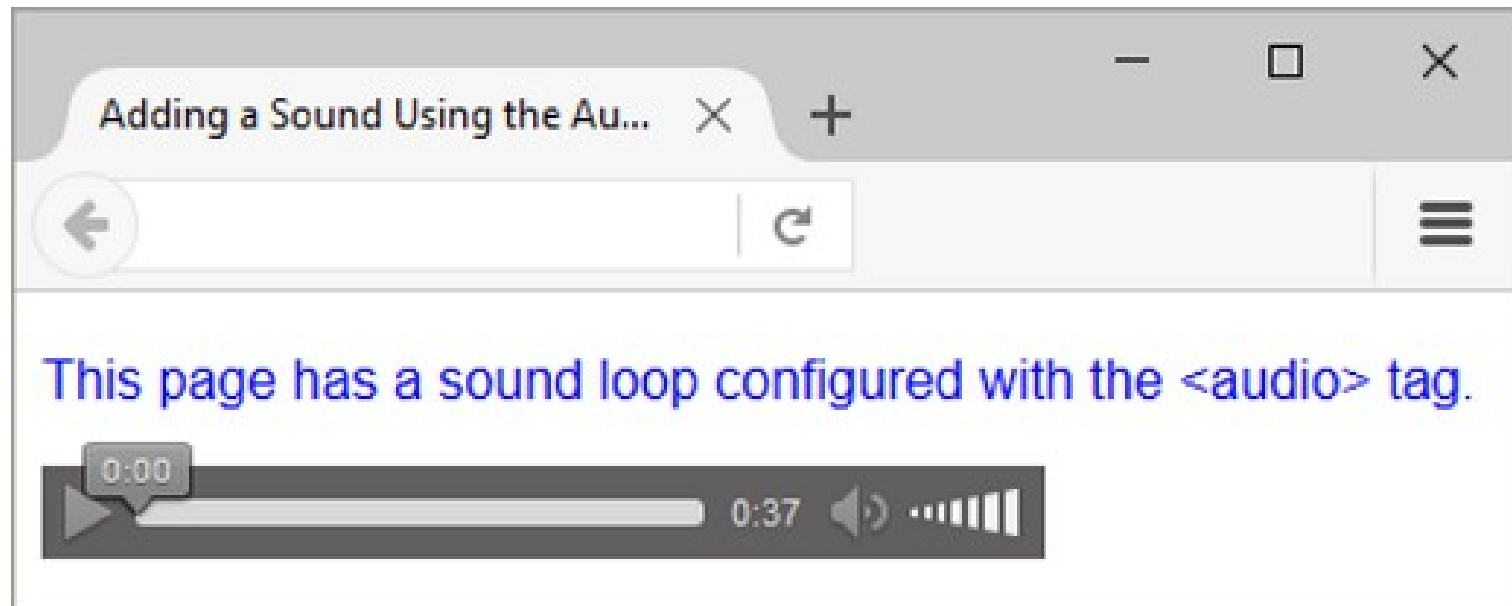
The Firefox browser supports the HTML5 audio element.

Video Element

The HTML5 <video> element supports native play of video files in the browser.

<video> … </video>

- supply multiple versions of the file

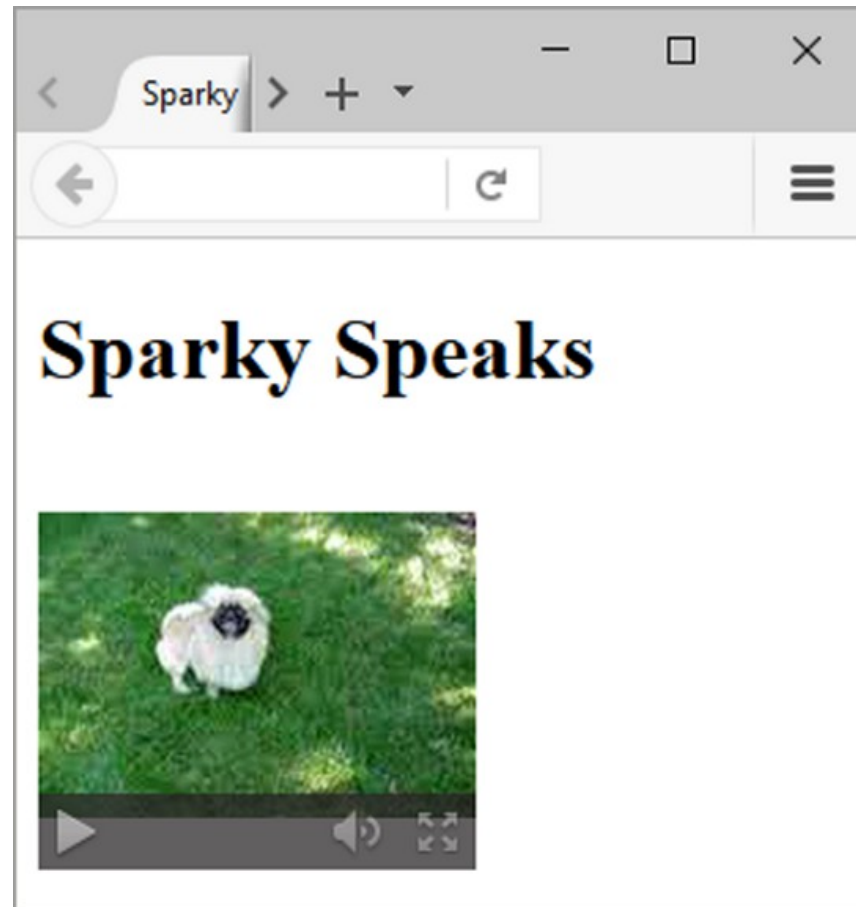- at least two different containers, including *OGG (OGV)* and *MP4*

Video Element

Attribute	Value	Description
autoplay	autoplay	Specifies that the video will start playing as soon as it is ready
controls	controls	Specifies that video controls should be displayed (such as a play/pause button etc).
height	*pixels*	Sets the height of the video player
loop	loop	Specifies that the video will start over again, every time it is finished
muted	muted	Specifies that the audio output of the video should be muted
poster	*URL*	Specifies an image to be shown while the video is downloading, or until the user hits the play button
preload	auto metadata none	Specifies if and how the author thinks the video should be loaded when the page loads
src	*URL*	Specifies the URL of the video file
width	*pixels*	Sets the width of the video player

HTML5 Video & Source Elements

```html
<video controls poster="sparky.jpg"
        width="160" height="150">
        <source src="sparky.m4v" type="video/mp4">
        <source src="sparky.ogv" type="video/ogg">
        <a href="sparky.mov">Sparky the Dog</a> (.mov)
</video>
```
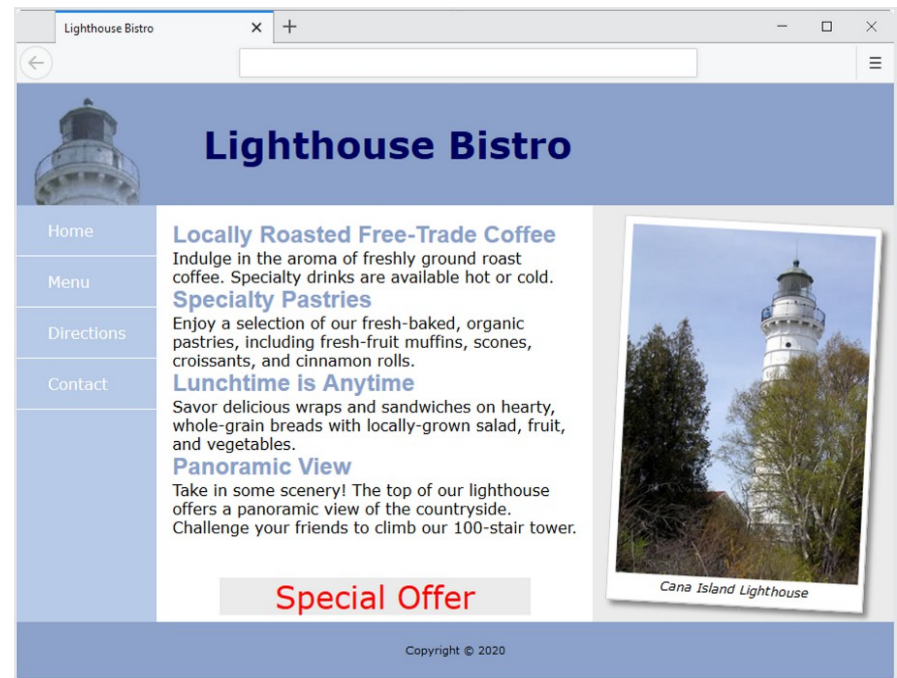
The Firefox browser. Screenshots of Mozilla Firefox. Courtesy of Mozilla Foundation.

11 - 15

CSS Transform Property

Allows you to rotate, scale, skew, or move an element
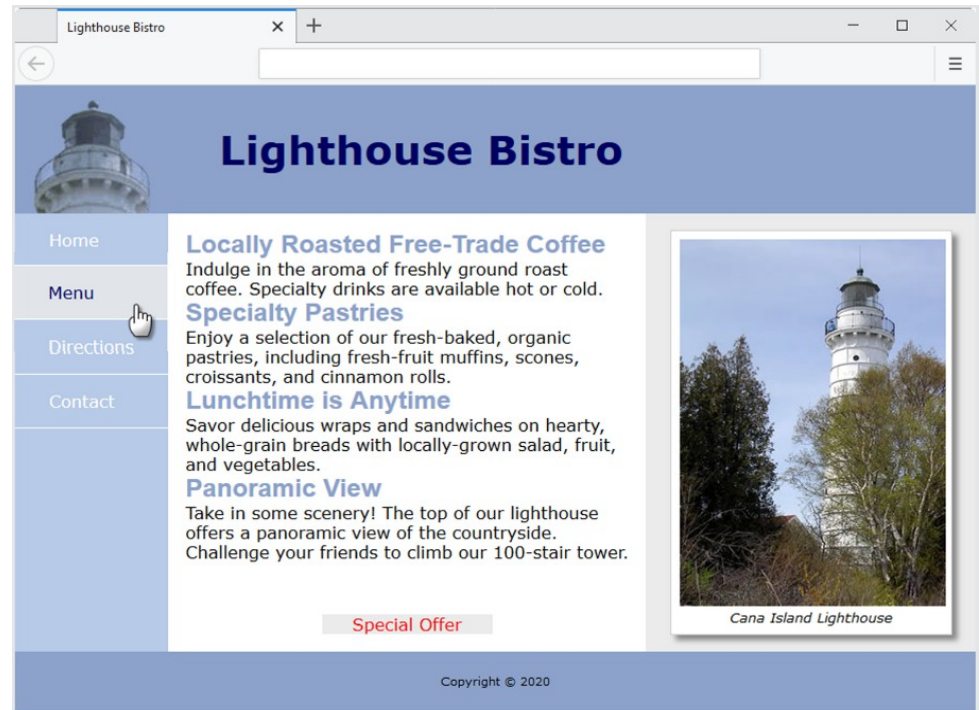
Example:

transform: rotate(3deg);

CSS Transition Property

Provides for
changes
in property values
to display
in a smoother manner
over a specified time.

Example:

nav a:hover { color: #869dc7; background-color: #EAEAEA;

transition: background-color 2s linear; }

CSS Image Gallery

Configure each thumbnail image:

```
<li><a href="photo1.jpg"><img src="photo1thumb.jpg"
 width="100" height="75" alt="Golden Gate Bridge">

    <span><img src="photo1.jpg"  width="400"
height="300"
  alt="Golden Gate Bridge"><br>Golden Gate Bridge
</span></a>

 </li>
```

CSS Image Gallery

The key CSS:

```
#gallery span {

        position: absolute;
        opacity: 0;

        transition: opacity 3s ease-in-out;

        left: -1000px; }

#gallery a:hover span     {
                    position: absolute;

                    top: 16px; left: 320px;

                    text-align: center; }
```

Figure 11.12 The new photo gradually displays