HyperText Markup Language

HTML Skeleton

```html
<!DOCTYPE html>

<html>

    <head>
        <meta charset="UTF-8">
        <title>Web Art</title>
    </head>

    <body>
        <h1>Web Art</h1>
    </body>

</html>
```
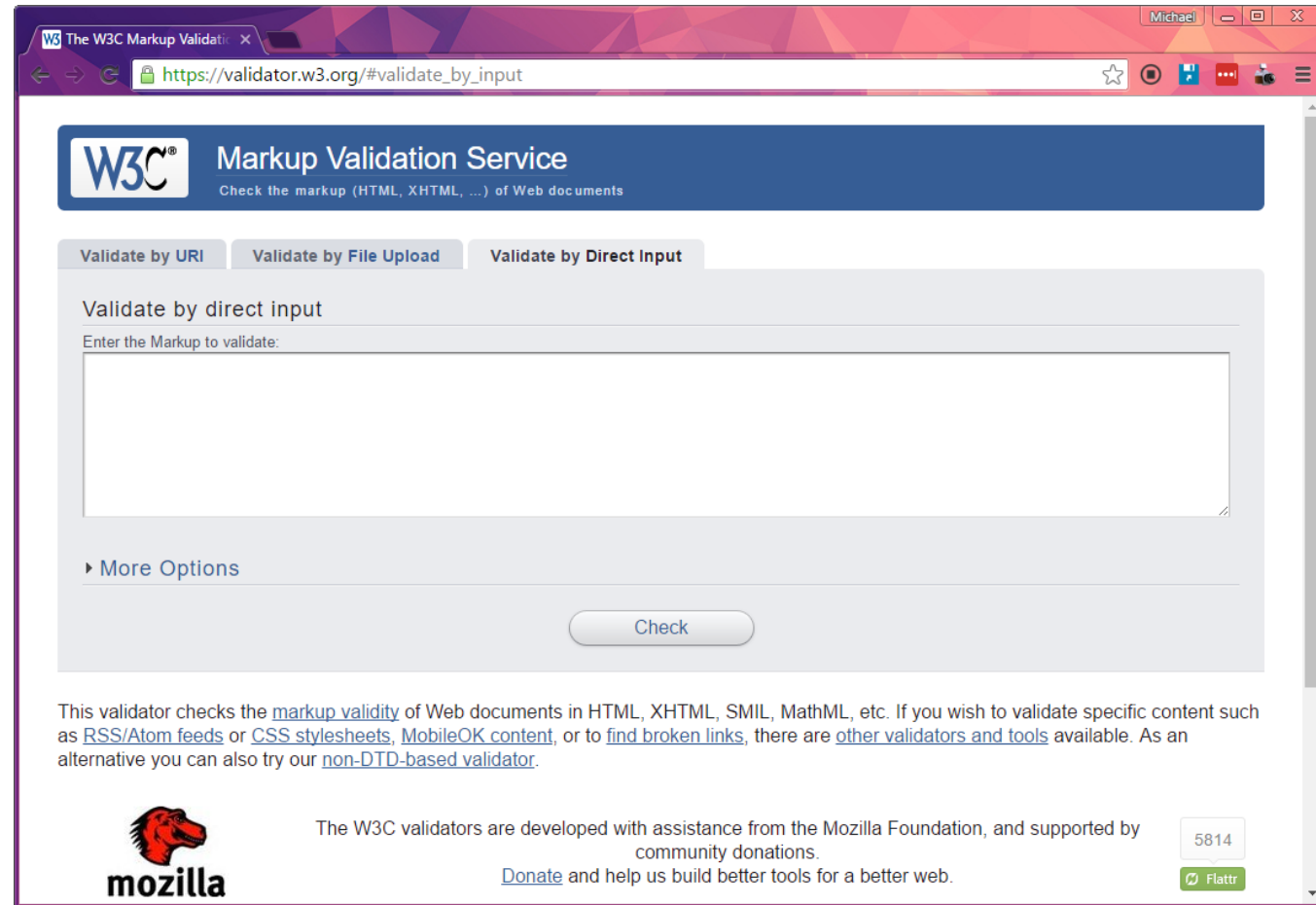
Escape Characters

	Less-than sign < <		Cent sign ¢ ¢		Left single quote ‘ ‘
<		¢		'	
>	Greater-than sign > &	£	Pound sign £ £	'	Right single quote ’ ’
&	Ampersand & &	¥	Yen sign ¥ ¥	"	Left double quotes “ “
"	Quotation mark " "	€	Euro sign € €	"	Right double quotes ” ”
		©	Copyright symbol © ©	×	Multiplication sign × ×
		®	Registered trademark ® ®	÷	Division sign ÷ ÷
		™	Trademark ™ ™		

Validator

Lists

Ordered Lists

```html
<ol>
    <li>The Shawshank Redemption, 1994</li>
    <li>The Godfather, 1972</li>
    <li>The Godfather: Part II, 1974</li>
    <li>The Dark Knight, 2008</li>
    <li>Schindler's List, 1993</li>
</ol>
```

LIST STARTS { `<ol>`

`<li>`The Shawshank Redemption, 1994`</li>`
`<li>`The Godfather, 1972`</li>`
`<li>`The Godfather: Part II, 1974`</li>`
`<li>`The Dark Knight, 2008`</li>`
`<li>`Schindler's List, 1993`</li>`

CHILD ITEMS

LIST ENDS { `</ol>`

```html
<ol>
  <li>The Shawshank Redemption, 1994</li>
  <li>The Godfather, 1972</li>
  <li>The Godfather: Part II, 1974</li>
  <li>The Dark Knight, 2008</li>
  <li>Schindler's List, 1993</li>
</ol>
```

Inline Text Elements

Block vs Inline

```html
<!-- Block Elements -->
<p>Paragraph 1</p>
<p>Paragraph 2</p>
<p>Paragraph 3</p>

<!-- Inline Elements -->
<a href="http://www.google.com">google</a>
<a href="http://www.facebook.com">facebook</a>
<a href="http://www.twitter.com">twitter</a>
```

Flow Demo

file:///E:/Dropbox/W

Paragraph 1

Paragraph 2

Paragraph 3

google facebook twitter
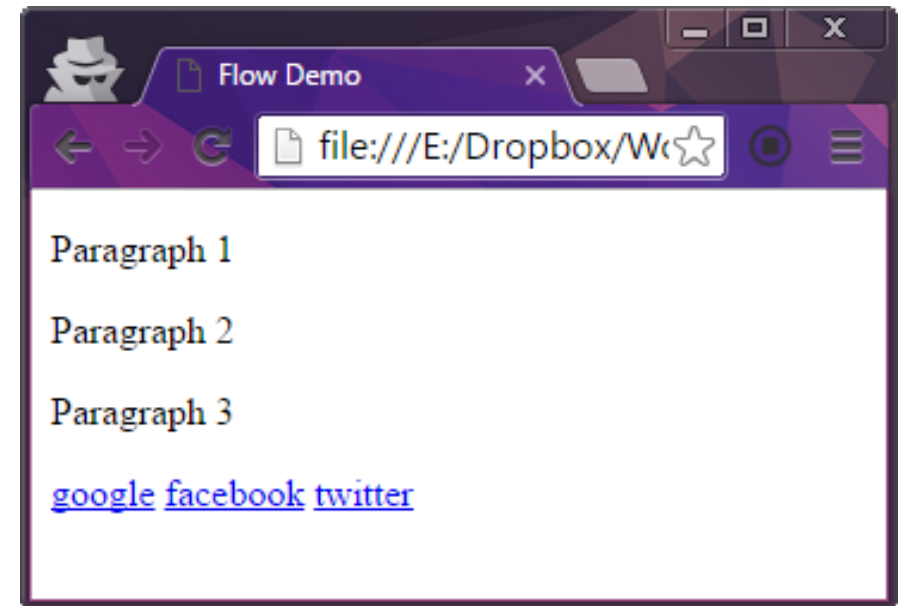
Block Elements

- h1 – h6
- p
- ol, ul, li
- header, footer
- nav
- section
- div
- And more

Inline Elements

- img
- a
- b, i, s, u
- sup, sub
- span
- audio, video
- And more

Semantic Text Elements

```html
<p>
    Do
    <strong>not</strong>
    think about it.
</p>

<p>
    That is
    <em>totally</em>
    the right way to do that.
</p>
```

Stylistic Text Elements

```html
<p>
    <b>Call me Ishmael. Some years ago</b> -- never mind how long
    precisely -- having little or no money in my purse, and nothing
    particular to interest me...
</p>


<p>
    <i>Internet Art</i> by Rachel Greene
</p>
```

Semantic vs Stylistic Elements

- Reasons to care about semantics:
  - Screen readers
  - Mobile
  - The robots
- More info: http://stackoverflow.com/a/271776

Navigation

New Elements

```html
<!DOCTYPE html>

<html>

    <head>
        <meta charset="UTF-8">
        <title>Multipage Website</title>
    </head>

    <body>
        <header>
            <nav></nav>
        </header>

        <section></section>

        <footer></footer>
    </body>

</html>
```

```
<!DOCTYPE html>

<html>

        <head>
                <meta charset="UTF-8">
                <title>Multipage Website</title>
        </head>

        <body>
                <header>
                        <nav></nav>
                </header>

                <section></section>

                <footer></footer>
        </body>

</html>
```

Element for introductions and/or navigation →

```html
<!DOCTYPE html>

<html>

    <head>
        <meta charset="UTF-8">
        <title>Multipage Website</title>
    </head>

    <body>
        <header>
            <nav></nav>
        </header>

        <section></section>

        <footer></footer>
    </body>

</html>
```

Element for holding
navigation links →

```
<!DOCTYPE html>

<html>

    <head>
        <meta charset="UTF-8">
        <title>Multipage Website</title>
    </head>

    <body>
        <header>
            <nav></nav>
        </header>


        <section></section>


        <footer></footer>
    </body>

</html>
```

Thematically grouped
content →

```html
<!DOCTYPE html>

<html>

    <head>
        <meta charset="UTF-8">
        <title>Multipage Website</title>
    </head>

    <body>
        <header>
            <nav></nav>
        </header>

        <section></section>

        <footer></footer>
    </body>

</html>
```

Used for meta/final information, e.g. copyright ⟶

Resources on Semantic Elements

- https://codepen.io/mi-lee/post/an-overview-of-html5-semantics
- http://blog.teamtreehouse.com/use-html5-sectioning-elements

```html
<body>
    <header>
        <h1>💻 Web Art 💻</h1>
        <nav>
            <a href="index.html">Home</a>
            🍼
            <a href="about.html">About</a>
            🍼
            <a href="list.html">List</a>
        </nav>
    </header>

    <section>
        <h1>Welcome</h1>
        <img src="https://media.giphy.com/media/Y8ocCgwtdj29O/giphy.gif">
    </section>

    <footer>
        Mike Hadley &copy; 2016
    </footer>
</body>
```

Absolute Paths

Absolute paths are full web addresses. They typically start with one of the following:

- http://www
- https://www
- //www

```
<a href="http://www.google.com">Google</a>
```

Relative Paths

Relative paths are web addresses relative to the current document. Examples:

- about.html
- images/cat-bullet.png
- ../other-page.html

```
<a href="about.html">About</a>
```

More info: coffeecup.com/help/articles/absolute-vs-relative-pathslinks/

IFrame Embedded Content
(YouTube, Maps, Etc.)

Embedding Sites

```
<iframe src="https://en.wikipedia.org/wiki/Giant_panda"></iframe>
```

*not all sites can be embedded

Attributes

⑤ = New in HTML5.

Attribute	Value	Description
align	left right top middle bottom	Not supported in HTML5. Specifies the alignment of an <iframe> according to surrounding elements
frameborder	1 0	Not supported in HTML5. Specifies whether or not to display a border around an <iframe>
height	pixels	Specifies the height of an <iframe>
longdesc	URL	Not supported in HTML5. Specifies a page that contains a long description of the content of an <iframe>
marginheight	pixels	Not supported in HTML5. Specifies the top and bottom margins of the content of an <iframe>
marginwidth	pixels	Not supported in HTML5. Specifies the left and right margins of the content of an <iframe>
name	text	Specifies the name of an <iframe>
sandbox	allow-forms allow-pointer-lock ⑤ allow-popups allow-same-origin allow-scripts allow-top-navigation	Enables an extra set of restrictions for the content in an <iframe>
scrolling	yes no auto	Not supported in HTML5. Specifies whether or not to display scrollbars in an <iframe>
src	URL	Specifies the address of the document to embed in the <iframe>
srcdoc	⑤ HTML_code	Specifies the HTML content of the page to show in the <iframe>
width	pixels	Specifies the width of an <iframe>

http://www.w3schools.com/tags/tag_iframe.asp

```html
<section>
    <h1>Embedding a Site</h1>
    <iframe
        src="https://en.wikipedia.org/wiki/Giant_panda"
        width="800"
        height="400"
        frameborder="0"></iframe>
</section>
```

Embedding Google Maps

- Go to maps.google.com
- Find a location
- Click Share
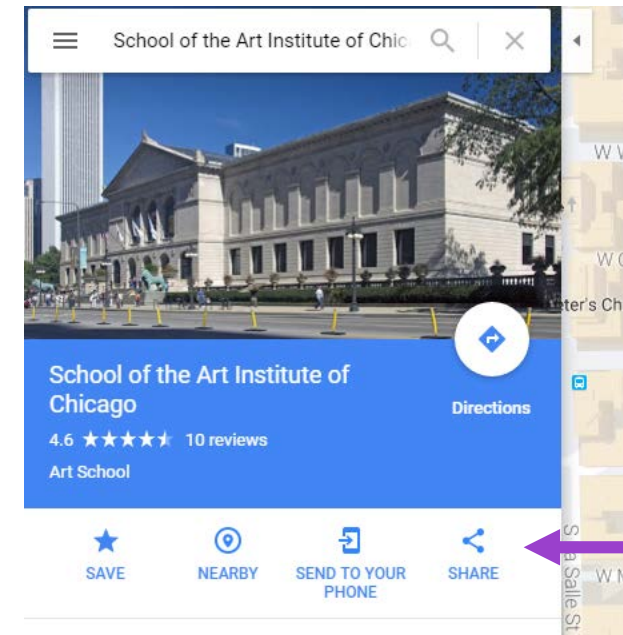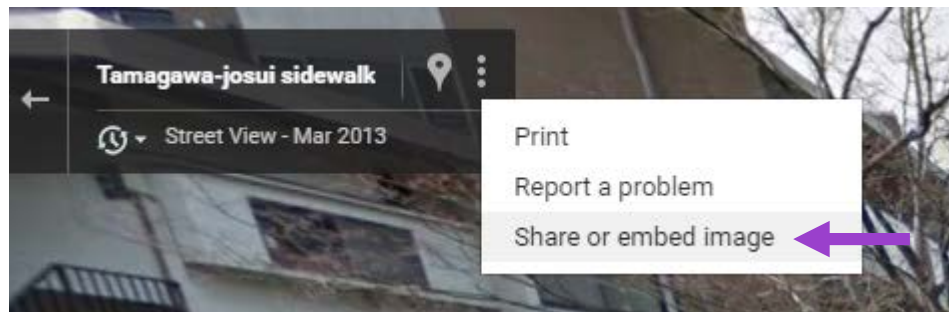
```html
<section>
    <h1>Embedding Maps</h1>
    <iframe
        src="https://www.google.com/maps/embed?pb=!1m0!3m2!1sen!2sus!4v14732561446
        6!6m8!1m7!1sgT28ssf0BB2LxZ63JNcL1w!2m2!1d35.70407437075822!2d139.5577317304
        603!3f287.76!4f-20.010000000000005!5f0.7820865974627469"
        width="600"
        height="450"
        frameborder="0"
        style="border:0"
        allowfullscreen></iframe>
</section>
```

Embedding YouTube

- More info and controls here
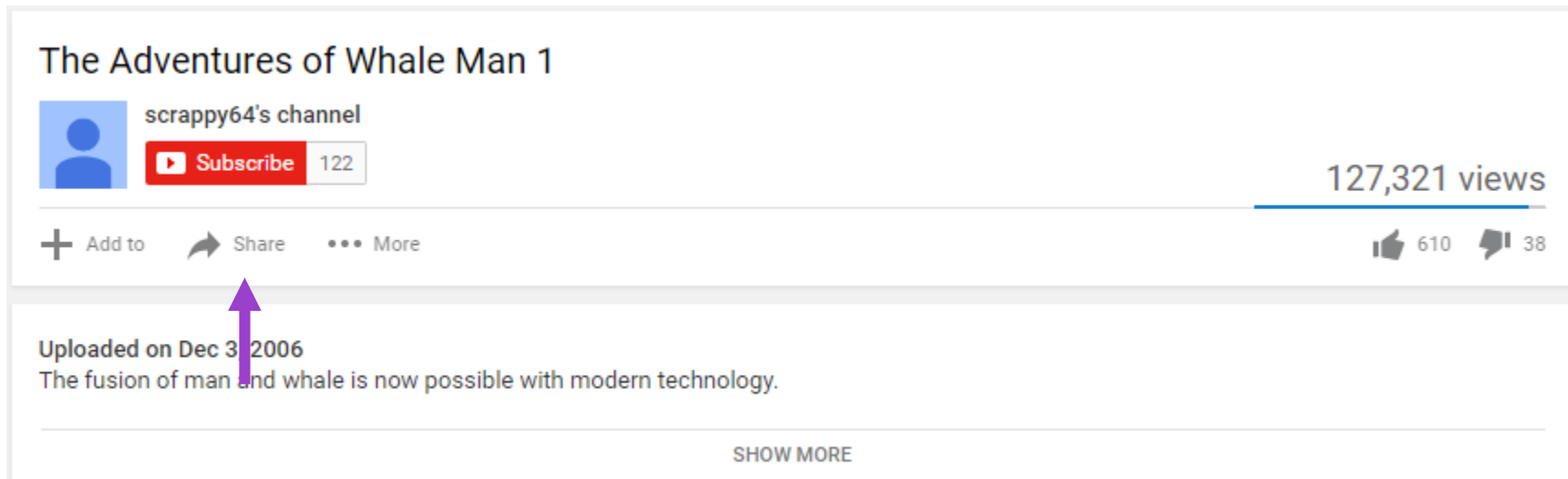
```html
<section>
    <h1>Embedding YouTube</h1>
    <iframe
        width="560"
        height="315"
        src="https://www.youtube.com/embed/iRZ2Sh5-XuM?autoplay=1&start=3"
        frameborder="0"
        allowfullscreen></iframe>
</section>
```

Embedding SoundCloud

- More info and controls [here](#)
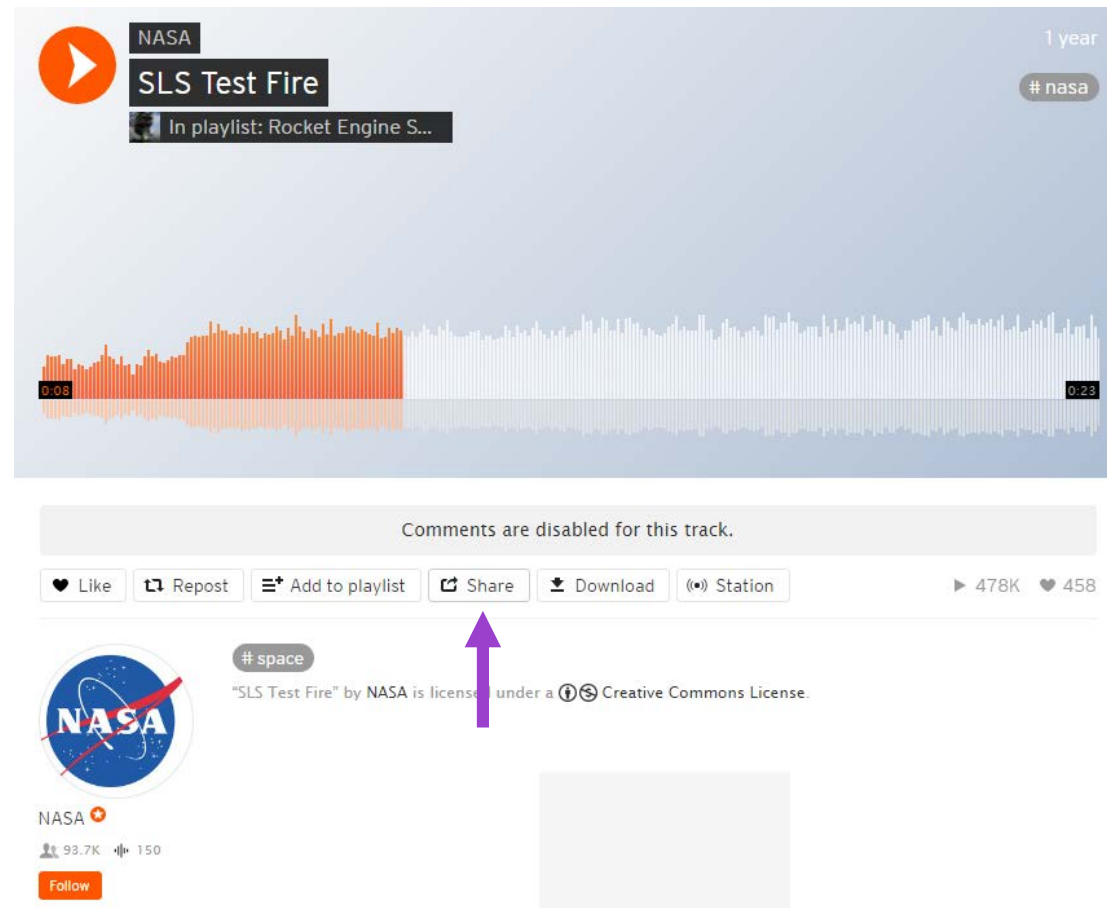
```html
<section>
    <h1>Embedding SoundCloud</h1>
    <iframe
        width="500"
        height="100"
        scrolling="no"
        frameborder="no"
        src="https://w.soundcloud.com/player/?url=https%3A//api.soundcloud.com/
        tracks/3150016&auto_play=true&hide_related=false&show_comments=true&
        show_user=true&show_reposts=false&visual=false&show_artwork=false"></iframe>
        >
</section>
```

Video and Audio

Video

- Tutorial on video in html: html5rocks.com

```html
<video src="video/electric-sheep-1.mp4">
    Your browser does not support the video element!
</video>
```

Optional Attributes

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

http://www.w3schools.com/tags/tag_video.asp

```html
<video
    src="video/electric-sheep-2.mp4"
    loop
    autoplay
    width="1000">
    Your browser does not support the video element!
</video>
```

```html
<video loop autoplay>
    <source src="video/electric-sheep-1.webm" type="video/webm">
    <source src="video/electric-sheep-1.mp4" type="video/mp4">
    Your browser does not support the video element!
</video>
```

Audio

- Tutorial on audio in html: thinkful.com

```
<audio src="audio/nasa-sls-test-fire.mp3">
    Your browser does not support the audio element.
</audio>
```

Attributes

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
preload	auto metadata none	Specifies if and how the author thinks the audio should be loaded when the page loads
src	URL	Specifies the URL of the audio file

http://www.w3schools.com/tags/tag_audio.asp

```html
<audio
    src="audio/nasa-chorus-radio-waves.mp3"
    type="audio/mp3"
    preload="auto"
    autoplay
    controls>
    Your browser does not support the audio element.
</audio>
```

Browser compatibility

| | Desktop | Mobile |

Feature	Chrome	Firefox (Gecko)	Internet Explorer	Opera	Safari
Basic support	3.0	3.5 (1.9.1)	9.0	10.50	3.1
`<audio>`: PCM in WAVE	(Yes)	3.5 (1.9.1)	No support	10.50	3.1
`<audio>`: Vorbis in WebM	(Yes)	4.0 (2.0)	No support	10.60	3.1[1]
`<audio>`: Streaming Vorbis/Opus in WebM via MSE	?	36.0 (36.0)[2]	?	?	?
`<audio>`: Vorbis in Ogg	(Yes)	3.5 (1.9.1)	No support	10.50	No support
`<audio>`: MP3	(Yes)[4]	(Yes)[5]	9.0	(Yes)	3.1
`<audio>`: MP3 in MP4	?	?	?	?	(Yes)
`<audio>`: AAC in MP4	(Yes)[6]	(Yes)[7]	9.0	(Yes)	3.1
`<audio>`: Opus in Ogg	27.0	15.0 (15.0)	?	?	?
`<audio>`: FLAC	No support	51 (51)	No support	No support	No support
`<audio>`: FLAC in Ogg	No support	51 (51)	No support	No support	No support
`<video>`: VP8 and Vorbis in WebM	6.0	4.0 (2.0)	9.0[8]	10.60	3.1[9]
`<video>`: VP9 and Opus in WebM	29.0	28.0 (28.0)	?	(Yes)	?
`<video>`: Streaming WebM via MSE	?	42.0 (42.0)[35]	?	?	?
`<video>`: Theora and Vorbis in Ogg	(Yes)	3.5 (1.9.1)	No support	10.50	No support
`<video>`: H.264 and MP3 in MP4	(Yes)[4]	(Yes)[10]	9.0	(Yes)	(Yes)
`<video>`: H.264 and AAC in MP4	(Yes)[4]	(Yes)[11]	9.0	(Yes)	3.1
any other format	No support	No support	No support	No support	3.1[12]

https://developer.mozilla.org/en-US/docs/Web/HTML/Supported_media_formats#Browser_compatibility