# ECAP472

# Web Technologies


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# Learning Outcomes

After this lecture, you will be able to

- understand HTML content models.
- insert multimedia files in webpage.

# Content Model

- Content Model refers to the set of rules that define what type of content each element is allowed to have. Mostly, this translates into what other elements are allowed to be nested inside which other elements.
- Prior to the modern HTML specification, HTML elements were either *block-level* or *inline* elements. Modern HTML specification split these two content models into seven models

# Content Model

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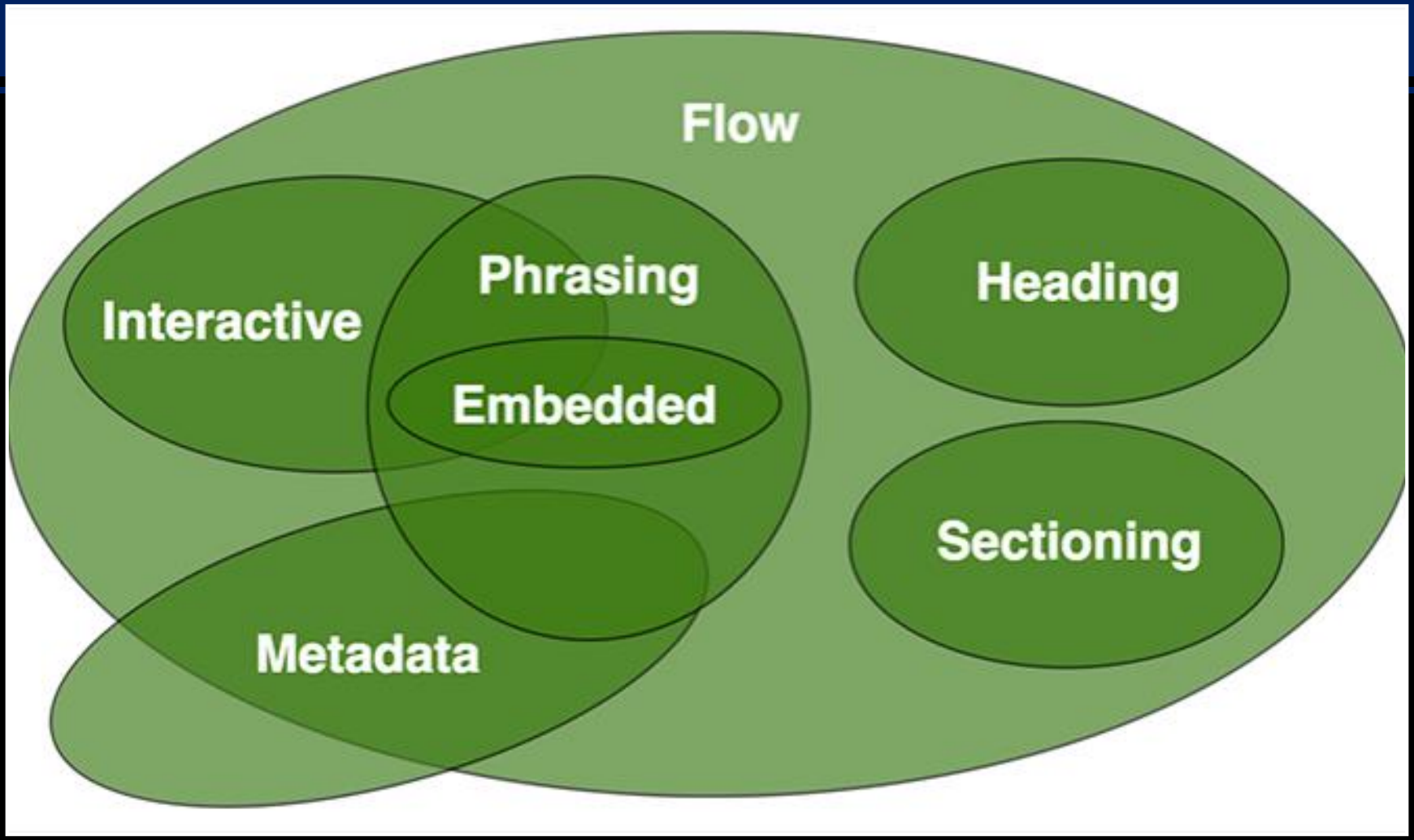
- Prior to the modern HTML specification, HTML elements were either *block-level* or *inline* elements. Modern HTML specification split these two content models into seven models

# In HTML5, there are seven content models

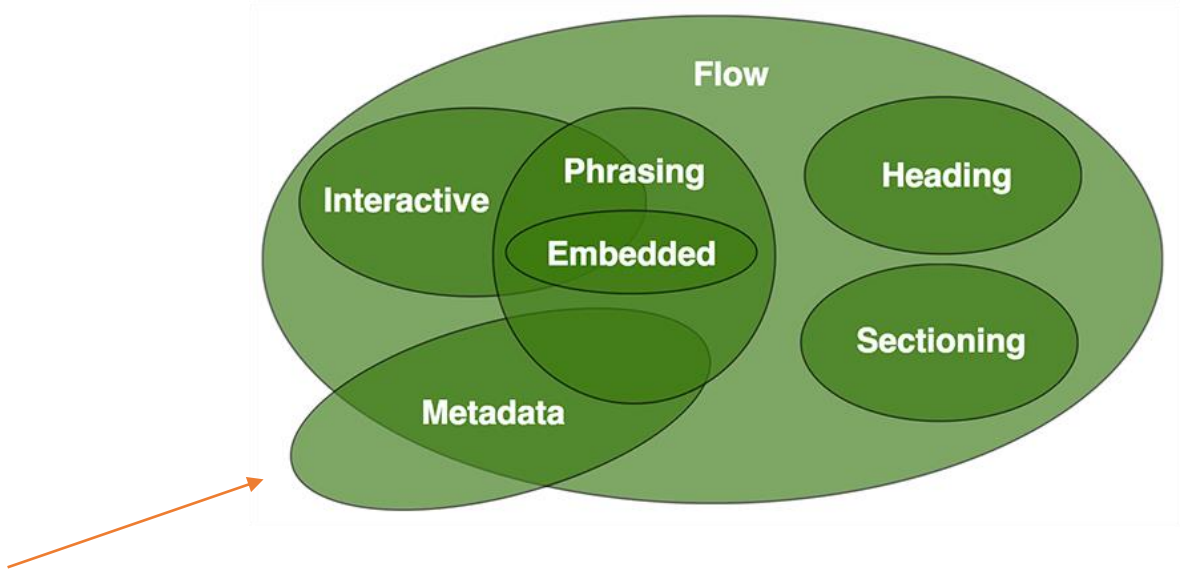
1. Metadata content
2. Flow content
3. Sectioning content
4. Heading content
5. Phrasing content
6. Embedded content
7. Interactive content




# Modern HTML Content Models

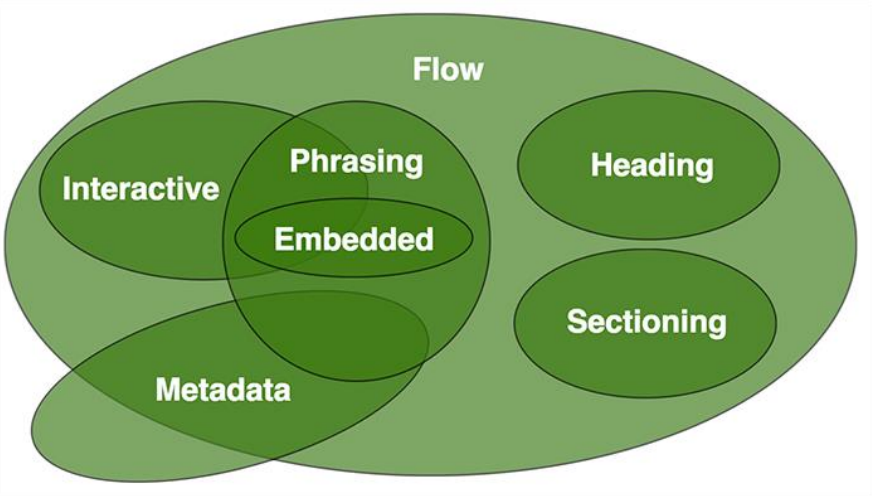
# Metadata Content

- Metadata content is responsible for setting up the presentation (look) or behavior to the rest of the HTML page. It can also set up the relationship of the HTML document with other documents.



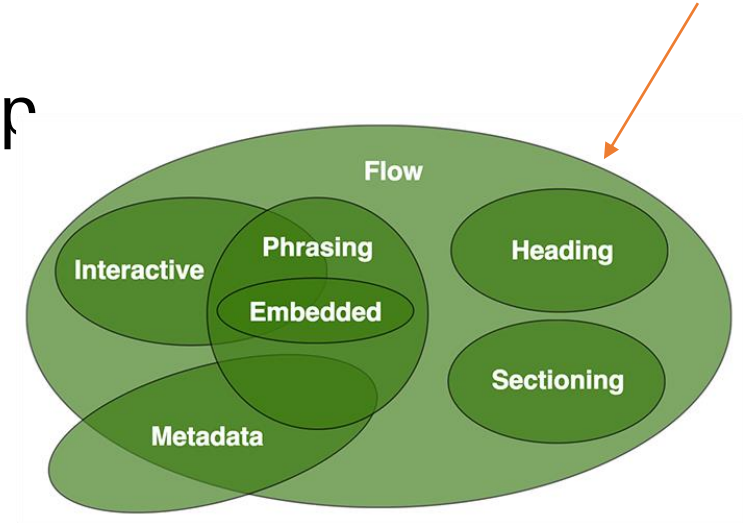
# Flow Content

- Most contents of HTML document are in this type. These contents influence other contents to flow.
- Sectioning content represents a section in the current document. Each sectioning content potentially has a heading content and footer.



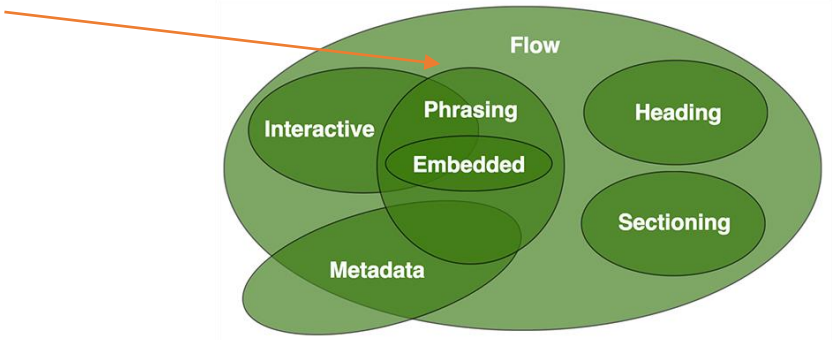
# Heading Content

- Heading content is the titles or headers of a section in the document.
- The HTML elements that can contain heading content are-
- h1,h2, h3, h4, h5, h6, hgroup



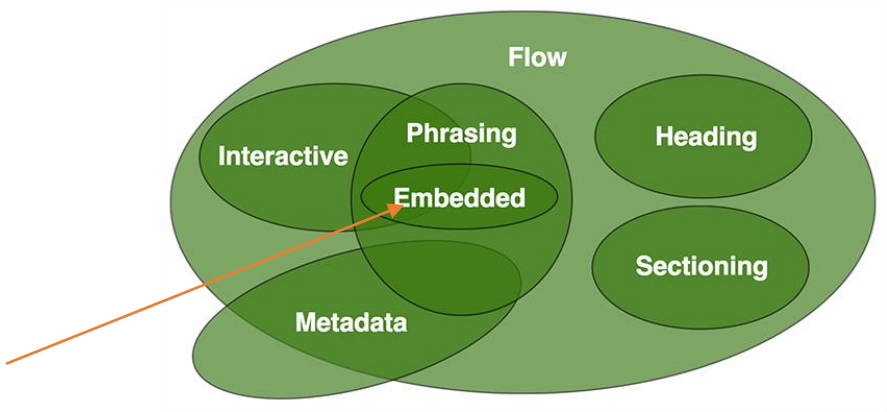
# Phrasing Content

- Phrasing content refers to those small pieces of texts that are surrounded by other texts. For example, links. A link is often surrounded by texts.
- Element that contains phrasing content should contain either text or embedded content. Elements that contain this type of contents are inline level and must have end tag.



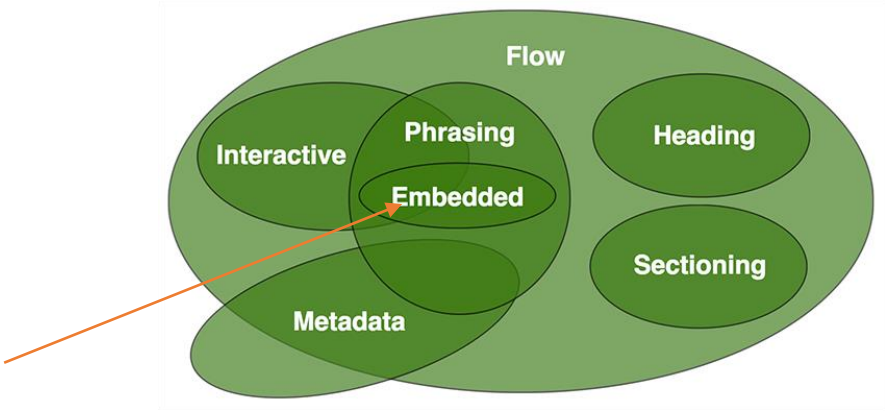
# Embedded Content

- Embedded content embeds resources from other sources or add contents from another mark-up languages. Example, image video etc.



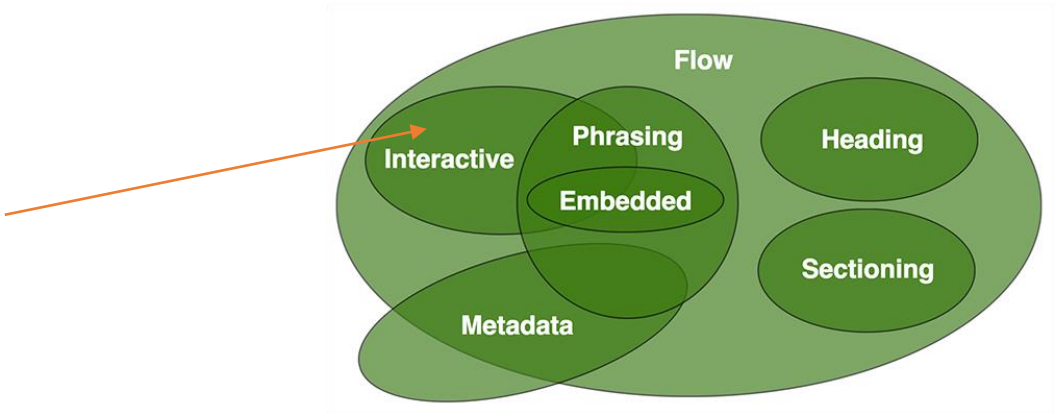
# Embedded Content

- The HTML elements that can contain embedded content are-
- audio, canvas, embed, iframe, img, math, object, svg, video



# Interactive Content

- The contents in the web page that can interact with users are interactive content. For example, links, button etc. Interactive contents are seen inside form.



# Difference between HTML and HTML5?

- HTML5 supports both **audio** and **video** .
- HTML cannot allow JavaScript to run within the web browser, while **HTML5** provides full support for running JavaScript.
- In **HTML5**, inline **mathML** and **SVG** can be used in a text, while in HTML it is not possible.

# The HTML <audio> Element

- To play an audio file in HTML, use the <audio> element:

```
<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

# HTML Audio - How It Works

- The controls attribute adds audio controls, like play, pause, and volume.
- The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.
- The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.

# HTML <audio> Autoplay

- To start an audio file automatically, use the autoplay attribute:

Example

```
<audio controls autoplay>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

# HTML Audio Formats

- There are three supported audio formats: MP3, WAV, and OGG. The browser support for the different formats is:

| Browser | MP3 | WAV | OGG |
|---|---|---|---|
| Edge/IE | YES | YES* | YES* |
| Chrome | YES | YES | YES |
| Firefox | YES | YES | YES |
| Safari | YES | YES | NO |
| Opera | YES | YES | YES |

# HTML Video

- The HTML <video> element is used to show a video on a web page.
- To show a video in HTML, use the <video> element:
- Example
- <video width="320" height="240" controls>
- <source src="movie.mp4" type="video/mp4">
- <source src="movie.ogg" type="video/ogg">
- </video>

# How it Works

- The controls attribute adds video controls, like play, pause, and volume.
- It is a good idea to always include width and height attributes. If height and width are not set, the page might flicker while the video loads.

# How it Works

- The <source> element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.
- The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

# HTML <video> Autoplay

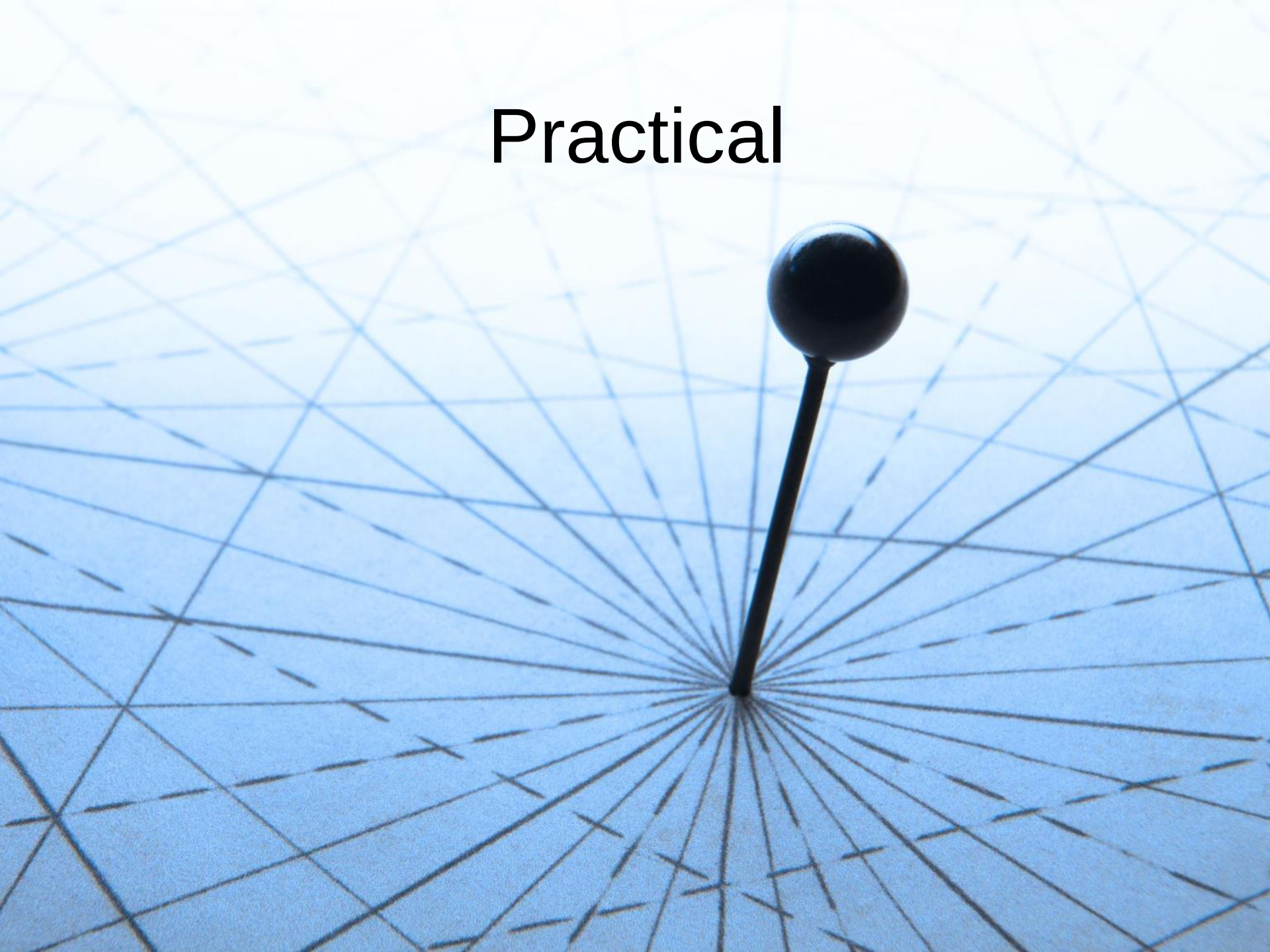
- To start a video automatically, use the autoplay attribute:

Example

```
<video width="320" height="240" autoplay>
  <source src="movie.mp4" type="video/mp4">

</video>
```

# Practical



That’s all for now…