Part 2 - Week 2 – HTML and the content model

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Web Development 1, Lecture 2

Content model

- A content model is a set of rules and guidelines that describes the element's expected contents.

- Content models help ensure that HTML documents are structured properly, adhering to the semantic rules defined by HTML specifications. This, in turn, helps browsers correctly render the content.

- Content model classifies elements into categories for easier understanding and validation.

- Notice how MDN presents the HTML elements:

https://developer.mozilla.org/en-US/docs/Web/HTML/Guides/Content_categories
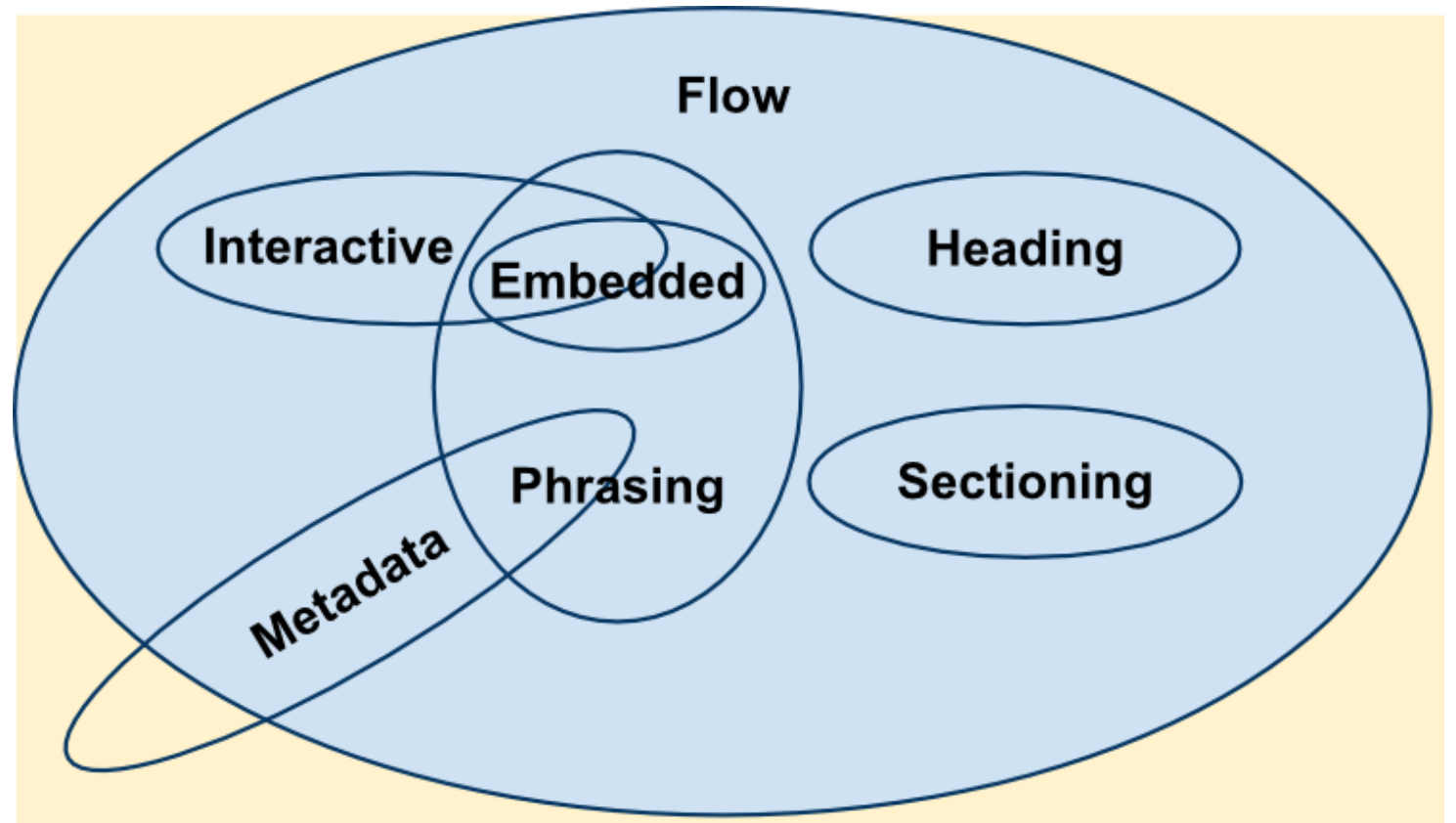
Content model – the HTML element

- The html element represents the root of our content model
- In the content model's structure, the <html> comes right before the tag <head>

```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Web Page Title</title>
</head>
<body>
</body>
</html>
```

Content model – the categories

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

Content model – Metadata

- What is Metadata?

    - Metadata is data about the data.

    - It gives us some information about the page, such as its style, the JavaScript behind it (the behaviour of some elements), and data to help search engines and screen readers understand it.

    - Metadata will not be displayed on the page.

- Metadata should come before the body element as it will set up how many of those elements will behave.

Content model – Metadata

- Tag usage options for Metadata Content.

Tag name	Description
title	Document title
base	Base URL of a website
link	Link between current document and external resources
meta	metadata
style	Presentation information
script	contains scripting statements or points to an external script file
noscript	defines an alternate content for users that have disabled scripts in their browser
template	holds its content hidden from the client. Can be used later using JavaScript.

Content model – Metadata

```
<head>
    <!-- Characters included in this page-->
    <meta charset="UTF-8">
    <!-- Page description-->
    <meta name="description" content="Week 2 class">
    <!-- Keywords-->
    <meta name="keywords" content="HTML, CSS, JavaScript">
    <!-- Content author-->
    <meta name="author" content="Fatma">
    <!-- Style-->
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
```

Content model – Flow

- Flow content is a broad category. It includes almost all elements that can be used in the document body.

- Remember: what we place in the body is what appears in the browser window.

- Elements such as the anchor tag, all the headings and the paragraph element are part of the Flow category in the content model

a	dialog	ins	samp
abbr	div	kbd	script
address	dl	label	section
area	em	link	select
article	embed	main	small
aside	fieldset	map	span
audio	figure	mark	strong
b	footer	math	style
bdi	form	meter	sub
bdo	h1	nav	sup
blockquote	h2	noscript	SVG
br	h3	object	svg
button	h4	ol	table
canvas	h5	output	template
cite	h6	p	textarea
code	header	picture	time
data	hr	pre	u
datalist	i	progress	ul
del	iframe	q	var
details	img	ruby	video
dfn	input	s	wbr
			text

Content model – Sectioning

- Sectioning content is actually a subset of the Flow content.

- It includes tags that create sections in the web page, such as **<article>**, **<aside>**, **<nav>** and, of course, **<section>**

- Each sectioning content element potentially has a heading and an outline, which is a list of one or more potentially nested sections

Content model – Heading

- Heading content is another subset of the Flow content.
- They are used to define the title of a section in our web page.
- It includes the tags **\<h1\>**, **\<h2\>**, **\<h3\>**, **\<h4\>**, **\<h5\>**, and **\<h6\>.**
- Be aware: the tag **\<header\>** is not considered a heading content (it is part of the Flow content).

Content model – Phrasing

- **phrasing content** refers to the pieces of content that make up the text and other inline elements within a paragraph or sentence — things that flow *within* the text without starting a new block.

- This piece of data can be an image or an audio

- It includes elements such as:
    - **<abbr>** represents a phrasing content piece of an abbreviation or acronym
    - **<audio>** element represents a phrasing content piece of a sound or audio stream
    - **<button>** element represents a phrasing content piece of an interactive button
    - **<canvas>** element represents a phrasing content piece of an image created by a drawing script

Content model – Phrasing

<p>This is important text with a link.</p>

Here:
- <em> marks emphasis
- <a> marks a hyperlink

Both are phrasing content.

Content model – Embedding

- Embedded content is content that imports another resource or content into the document.

audio
canvas
embed
iframe
img
math
object
picture
svg
video

Content model – Interactive

- Interactive content is content that is specifically intended for user interaction.

a (if the href attribute is present)
audio (if the controls attribute is present)
button
details
embed
iframe
img (if the usemap attribute is present)
input (if the type attribute is not in the Hidden state)
label
select
textarea
video (if the controls attribute is present)

Practice