# CSCI 111
# Web Programming and Problem Solving

Week-2-Lecture-1 HTML basics
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# Outline

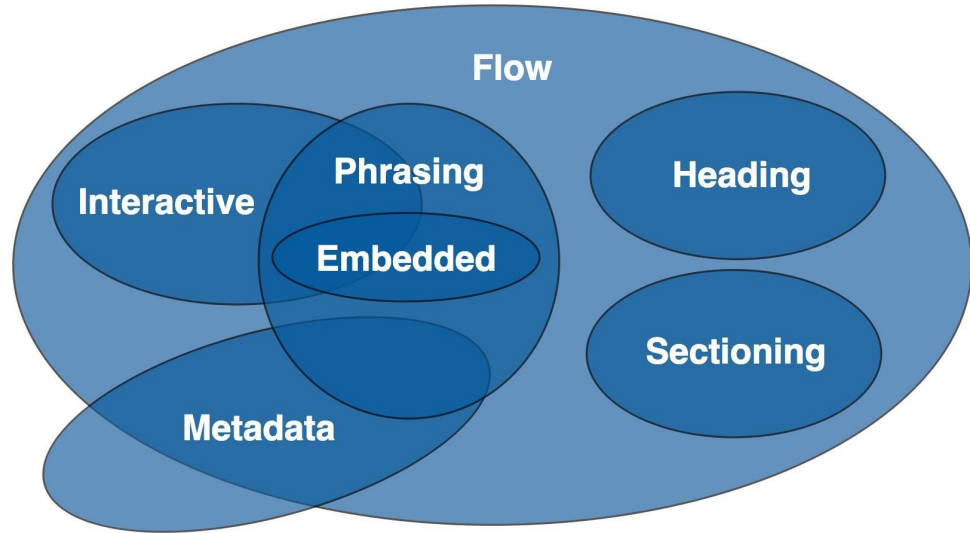HTML Content Model

H1 vs. Div

Semantic tags

Links

Menu

Displaying Images

Escape Characters

# HTML Content Model

Each element in HTML falls into zero or more categories that group elements with similar characteristics together:

• Metadata content

• Flow content

• Sectioning content

• Heading content

• Phrasing content

• Embedded content

• Interactive content



*https://www.w3.org/TR/2011/WD-html5-20110525/content-models.html#content-models*

# HTML Content Model

**Block-level** elements

- Placed on a new line (by default)

- Occupies full width of the line

- May include other block-level or inline elements

- Roughly corresponds to Flow content

- eg.: h1, div, p, ul, ol

**Inline** elements

- Placed on the same line line (by default)

- May include only other inline elements

- Roughly corresponds to Phrasing content

- eg.: span, strong, a

https://www.w3schools.com/html/html_blocks.asp

# H1 vs. Div

<p style="text-align:center;color:red;">H1 tag</p>

- Needs to reflect the content of the page
- Helps SEO (Search Engine Optimization)

<p style="text-align:center;color:red;">DIV tag</p>

- Block-level element – universal tag
- Can be styled with CSS to look like any other element
- Mostly used with class and id attributes as in my.nu.edu.kz

# Semantic tags

- Semantic elements' name imply some meaning to the content

- Human/machines can better understand the structure of a document

- Some useful tags:
  - header, footer
  - nav
  - section, article, aside

# Links

**Fragment links**

<a href="#some_element_name">Page Fragment</a>

<div id="some_element_name">…</div>

**Internal links**

<a href="some_page.html">Some internal page</a>

**External links**

<a href="http://w3.org">Some external link</a>

**Image links**

<a href="http://w3.org"><img src="w3.org.png" width="50px"></a>

**Email links**

<a href="mailto:email">Email link</a>

# Links

Use target attribute of <a> tag to:

open in the new window

<a href="some_url" target="_blank">….</a>

open in the current window

<a href="some_url" target="_self">….</a>

# Menu

To create a menu for a website use:

- semantic tag <nav> to wrap menu items
- unordered list to wrap each menu item
- apply CSS and JS to style a menu (later)

```
<nav>
    <ul>
        <li><a href="1.html">Menu Item 1</a></li>
        <li><a href="2.html">Menu Item 2</a></li>
        <li><a href="3.html">Menu Item 3</a></li>
    </ul>
</nav>
```

1.html

# Displaying Images

Some useful notes on <img> tag

remember that <img> is an inline element

use src attribute is similar to href attribute

the attribute alt is required for visually impaired people

use width and height attributes to allocate space on the page

Images can be used as links (as logo)

<a href="http://w3.org"><img src="w3.org.png" width="50px"></a><br>

2.html

# Escape characters

There are 3 main characters to be escaped:

      use &lt; to escape < symbol

      use &gt; to escape > symbol

      use &amp; to escape & symbol

Useful escape symbols:

      &quot; - to make a quotation

        - non-breaking space

      &copy; – copyright symbol

# Summary

- Use h1 tag for a page to convey the topic of the content

- Use semantic tags whenever possible to improve your SEO

- Use different types of links for your needs

- Use unordered lists for menu items

- Use width and height attributes of <img> tag accurately

- Use escape character not to break your HTML code