Web Application Architectures

Module 6: Presentation/User Interface
Lecture 3: HTML – Document Structure

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HTML Document Structure

Every HTML document has the following structure:

```
<!DOCTYPE html>
<html>

    <head>
        <!-- the document head -->
    </head>

    <body>
        <!-- the document body -->
    </body>

</html>
```

HTML Document Structure

- The DOCTYPE declaration must be the first thing that appears in an HMTL document.

- This declaration is *not* an HTML tag, it lets the web browser know what version of HTML the page is written in.

- For HTML5, use the following declaration:

  ```
  <!DOCTYPE html>
  ```

- Older versions of the HMTL standard will have more information:

  Ex. HTML 4.01 Strict –

  ```
  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
            "http://www.w3.org/TR/html4/strict.dtd">
  ```

- The `<html>` tag marks the opening of the outermost element associated with every HTML document.

- The `<html>` element is the root of the document — thus, it's the container for all of the HTML elements in a document.

```
<!DOCTYPE ... >
<html>
     <head>
          <!-- HTML head elements -->
     </head>
     <body>
          <!-- HTML body elements -->
     </body>
</html>
<!DOCTYPE ... >
<html>
```

The `<head>` element is the container for head elements.

- A required head element is the document title, specified using the `<title>` element.

Other common head elements include:

- `<link>` – used to specify the location of an external resource. This element is always empty, it can only contain attributes.

  Ex.   `<link rel="stylesheet" href="theme.css">`

    – The `rel` attribute specifies the relationship between the document and the linked resource.
    – The `href` attribute specifies the location (URL) of the external resource. The URL may be:
       absolute – pointing to another web site.
       relative – pointing to a file within the web site.

Other common head elements (continued):

- `<script>` – used to define a client-side script, or to include one from an external source, typically this is JavaScript.
  Ex.

  ```
  <script>
    function message() {
        document.write("Hello World!")
    }
  </script>
  ```

  Ex. If `src` is present, the `<script>` element must be empty.

  ```
   <script src="myscripts.js"></script>
  ```

  Again, the URL can be either absolute or relative.

The Head Element

Other common head elements (continued):

- `<meta>` – used to provide metadata within an HTML document.
    - Metadata is data about data — it is machine parable, but will *not* be displayed in the webpage.
    - Metadata can be used by browsers (e.g., when to refresh the webpage), search engines (keywords), or other web services.

    Ex.
    ```
    <head>
      <meta charset="UTF-8">
      <meta name="description" content="My MOOC">
      <meta name="keywords" content="MOOC,Web App">
      <meta name="author" content="G. Heileman">
    </head>
    ```

The `<body>` element contains the HTML elements that will actually be rendered in the browser.

– I.e., the body holds the actual "content" of the HTML document.

– Every HTML body element is classified as being either a block-level or a text-level (inline) element.

– Block-level elements define the major structure of a Web page, e.g., headings, paragraphs, etc., and they always produce a new line in the document.

– Inline elements define the minor structure of the web page, e.g., bold or emphasized text, and they do not produce a new line in the document.