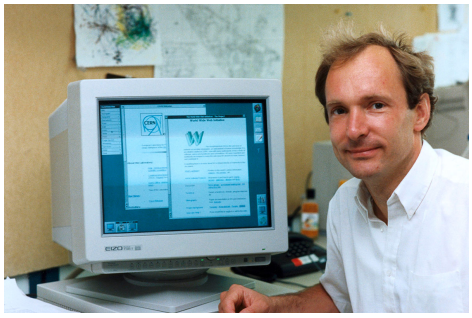
week::one

Introduction to HTTP, URL, & HTML

The World Wide Web's Core Technologies



Beginnings

- Tim Berners-Lee
  - Created the first workable hyperlink system for the Internet.
  - First system was designed so that Physicists could share research papers.
- Berners-Lee set the groundwork for three universal technologies:
  - HTTP A universal communications protocol (how transmitted)
  - URL Directions to information (where)
  - HTML A mark-up language (how displayed)

HTTP

- Hypertext Transfer Protocol
- The common highway information travels on
- Describes *how* data is communicated

URL

- Universal Resource Locator
- The directions pointing to *where* information is stored
- Syntax:

```
http://www.domainname.com/directory/filename.html
```

- Allows you to go anywhere at anytime
- Information no longer limited by geography
- IP Addresses and Domain Names
  - Each computer on the Internet has a unique IP
  - Domain names shield the end-user from IP addresses
  - When you type in a name, a computer translates it into an IP address. For Visual Communication's website chemeketa.vc is translated to 75.119.195.21.

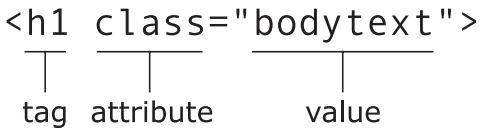
HTML

Hypertext Markup Language

- Provides a common, open, simple, text-based and standards-based language for displaying information.
- Based on previous technologies (SGML) from the print world.
- By design, HTML is a *structural* language, not a *visual* language.
- HTML hyper-linking allows for stream-of-conciseness browsing, where one interest leads to the next, which leads to the next and so on.

Base Components

- **Tag**
- **Attribute**
- **Value**
- Together, they are collectively called an **Element**.



Tags

- Tags allow you to markup plain text content in HTML documents.
- The role a tag plays varies:
  - Sometimes tags are used to establish a semantic structure in the document (`<h1>`, `<p>`, etc.)
  - Other times they define useful properties of a page (using the `<title>` tag, for example)
  - Or they can be used to create user input fields (using the `<input>` or `<button>` element)
- Tags are coded either as complete words (`<title>`) or abbreviations (`<p>` is for *paragraph*, `<img>` is for *image*).
- Tags usually appear in pairs. Most require a closing tag, which as denoted by a slash (`/`) inside brackets.
- Examples:

```
<head></head>
<body></body>
<header></header>
<p></p>
<img />
<a></a>
```

Attributes

- Attributes tell the browser ***what part*** of the tag you're going to alter.
- Examples:

```
class          src          size
width          href         id
```

Values

- Values tell the browser exactly ***how*** the attribute specified in the tag should appear/behave.
- Examples:

```
="white"
="images/home.gif"
="bicycle.html"
```

Elements

- A collection of **tags**, **attributes** and **values.**

```
<h1 class="bodycopy">My Contacts</h1>

<p>Hello World</p>

<img src="images/home.gif" width="13" height="13" alt="Welcome" />

<a href="bicycle.html">Buy a Bicycle Today!<a>
```

A Basic HTML Page

```
<html>
     <head>
        <title>Page Title</title>
     </head>
     <body>
        <p>Hello World</p>
     </body>
</html>
```

What to learn more? View the Source...

Common Tags

Core HTML Page Tags:

Every page should have at least these five tags:

`<!DOCTYPE html>`	A method of instructing a Web browser which *layout mode* to use when displaying a page (options include Quirks mode and Standards mode).
`<html></html>`	The <html> tag tells the web browser what type of document it is.
`<head></head>`	Most of the content within the head tags are invisible to the user. They give directions to the browser.
`<body></body>`	All web page content goes between the body tags
`<title></title>`	The title tag is always nested between the beginning and ending head tag. It tells the browser what text to display in the Title Bar of the browser window, and is used when bookmarked.

Page Content Tags:

Tags that are often used in formatting page content; always placed inside the `<body>` tag:

`<p></p>`	**Paragraph tag**—Most commonly used tag for displaying text

`<h1></h1>`
`<h2></h2>`
`<h3></h3>`
`<h4></h4>`
`<h5></h5>`
`<h6></h6>`
	Header tags—Used to display content headers and establish a content hierarchy. H1 is the most important header, H2 second-most, and so on...

`<img />`	**Image tag**—Used to insert images into your page. Note that this tag does not have a closing tag—you should add a / just before closing the tag.
`<a></a>`	**Anchor tag**—Used to make text or images links to other pages, images or documents.
`<em></em>`	**Emphasis**—Use to emphasize a line of text. By default it will italicize text.
`<strong></strong>`	**Strong**—Indicates that its contents have strong importance, seriousness, or urgency. By default it will bold text.
`<div></div>`	**Division tag**—Used to group content together

`<ul>`
`  <li></li>`
`</ul>`
	Unordered List—The tag is used to describe a list of items in which the order is not important. The tag contains the actual list items. Is used for lists of bulleted items and for navigation links.

`<span></span>`	**Span tag**—A meaningless inline tag. Use to mark-up content for styling or scripting of inline content. Does not create a new paragraph when closed.
`<!-- Hello World -->`	**Comments**—Text placed between these tags will not appear on a Web page. Used to insert comments and notes to yourself regarding a page.

Full HTML Reference

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