Web Application Development

Orientation & HTML

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Syllabus / Software

- Syllabus
  - https://bridgew.blackboard.com/

- Visual Studio code
  - https://code.visualstudio.com/
- GIT
  - https://git-scm.com/
- Create an account on Github
  - https://github.com/join
- Add your name to your Github account (profile) so I know who you are:
  - https://github.com/settings/profile

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Course Overview

Client-side	Client-side development
	How the Web Works
	HTML, CSS, JavaScript, JQuery and React
	Exam 1
Server-side	Server-side development
	Node.js (Express – back-end framework)
	Working with Databases and Web server administration
	Exam 2
Term Project	Group project (2 members)
	Milestones through the semester
	WireFrame prototyping and Progress presentation.
	Project Presentation and Demo

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HTML5 Resources (Front-end)

- w3schools
  - http://www.w3schools.com/
- Dive into HTML5
  - http://diveintohtml5.info/
- HTML5 specification
  - https://html.spec.whatwg.org/multipage/
- Awesome HTML5
  - https://github.com/diegocard/awesome-html5
- More….

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Tim Berners-Lee

- The invention of the WWW is usually attributed to the British Tim Berners-Lee, who, along with the Belgian Robert Cailliau, published a proposal in 1990 for a hypertext system while both were working at CERN in Switzerland.
  - https://en.wikipedia.org/wiki/Tim_Berners-Lee

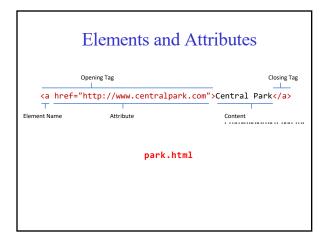image source: http://www.csail.mit.edu/user/769

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HTML Tags

- http://www.w3schools.com/tags/

Exercise

```
<!DOCTYPE html>
<html>                          index.html
    <head>
        <meta charset="utf-8" >
        <title>New Web Project</title>
    </head>
    <body>
        <h1>Hello world</h1>
    </body>
</html>
```

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Elements and Attributes

Opening Tag   Closing Tag

`<a href="http://www.centralpark.com">Central Park</a>`

Element Name   Attribute   Content

park.html

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Nesting HTML Elements

```
<body>          ......
...
    <p>
        This is some <strong>text</strong>
    </p>
    <h1>Title goes here</h1>

    <div>          ..........
        <p>
            This is <span>important</span>
        </p>
    </div>
</body>
```

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Which one is correct?

`<h1>Share Your <strong>Travels</strong></h1>`

`<h1>Share Your <strong>Travels</h1></strong>`

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```
<!DOCTYPE html>
<html>
<head lang="en">
    <meta charset="utf-8">
    <title>Share Your Travels -- New York - Central Park</title>
    <link rel="stylesheet" href="css/main.css">
    <script src="js/html5shiv.js"></script>
</head>
<body>
    <h1>Main heading goes here</h1>
    ...
</body>
</html>
```

`link`: Defines the relationship between a document and an external resource (most used to link to style sheets)
`rel`: relationship
`script`: defines a client-side script

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```
<body>
    <h1>Share Your Travels</h1>
    <h2>New York - Central Park</h2>
    <p>Photo by Randy Connolly</p>
    <p>This photo of Conservatory Pond in
        <a href="http://www.centralpark.com/">Central Park</a>
        New York City was taken on October 22, 2011 with a
        <strong>Canon EOS 30D</strong> camera.
    </p>
    <img src="images/central-park.jpg" alt="Central Park" />

    <h3>Reviews</h3>
    <div>
        <p>By Ricardo on <time>September 15, 2012</time></p>
        <p>Easy on the HDR buddy.</p>
    </div>
```

p: Defines a paragraph in a document
div: Defines a section in a document

```
    <div>
        <p>By Susan on <time>October 1, 2012</time></p>
        <p>I love Central Park.</p>
    </div>

    <p><small>Copyright &copy; 2012 Share Your Travels</small></p>
</body>
```

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Link to external site

`<a href="http://www.centralpark.com">Central Park</a>`

Link to resource on external site

`<a href="http://www.centralpark.com/logo.gif">Central Park</a>`

Link to another page on same site as this page

`<a href="index.html">Home</a>`

Link to another place on the same page

`<a href="#top">Go to Top of Document</a>`

`href` stands for Hypertext Reference

```
                    Link to specific place on another page
                          |
<a href="productX.html#reviews">Reviews for product X</a>

                    Link to email
                          |
<a href="mailto://person@somewhere.com">Someone</a>

                    Link to javascript function
                          |
<a href="javascript://OpenAnnoyingPopup();">See This</a>

          Link to telephone (automatically dials the number
          when user clicks on it using a smartphone browser)
                          |
<a href="tel:+18009220579">Call toll free (800) 922-0579</a>
```

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```
<img src="img/central-park.jpg"
     title="Central Park"
     alt="Central Park" />
```

src: Specifies the URL of the image to display

title: Text in the attribute will be displayed in a popup tooltip when user moves mouse over image

alt: Text in alt attribute provides a brief description of image's content for users who are unable to see it

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Character Entities

- https://www.w3schools.com/html/html_entities.asp

- These are special characters for symbols for which there is either no easy way to type in via a keyboard (such as the copyright symbol or accented characters) or which have a reserved meaning in HTML (for instance the "<" or ">" symbols).

- They can be used in an HTML document by using the entity name or the entity number.

- e.g.,   and ©

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Semantic Markup

- Over the past decade, a strong and broad consensus has grown around the belief that HTML documents should **only** focus on **the structure of the document**.

- Information about how the content should look when it is displayed in the browser is best left to CSS (Cascading Style Sheets).

- That is, an HTML document should not describe how to visually present content, but only describe its content's structural semantics or meaning

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HTML5 Semantic Elements

- http://www.w3schools.com/html/html5_semantic_elements.asp

- One substantial problem with modern, pre-HTML5 semantic markup:
  - most complex web sites are absolutely packed solid with <div> elements. Unfortunately, all these <div> elements can make the resulting markup confusing and hard to modify.

- Examples of non-semantic elements:
  - <div> and <span> - Tells nothing about its content.

- Examples of semantic elements:
  - <form>, <table>, and <article> - Clearly defines its content.

- Developers typically try to bring some sense and order to the <div> chaos by using id or class names that provide some clue as to their meaning.

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Examples

- index.html
- park.html
- www.seikyung.com

- How to debug from web browser
  - https://developer.chrome.com/docs/devtools/

Next

- Lab0 and Assignment0
  - You will need your laptop!

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