

HTML/CSS

Trinh Nguyen
tnguyen281@csc.com

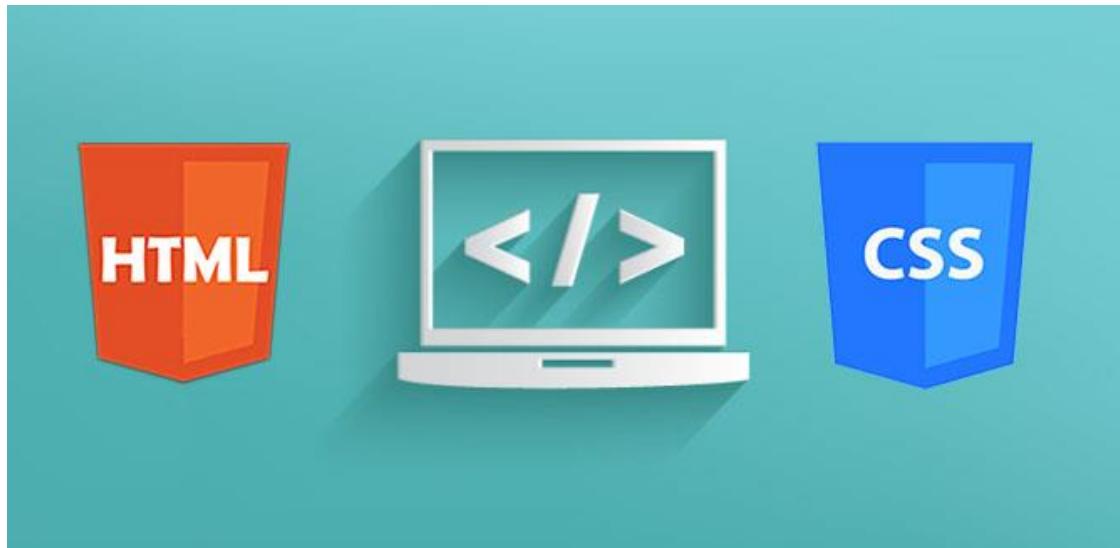
Introduction

- Your role
- Your background and experience in the subject
- What do you want from this course



Course Objectives

- At the end of the course, you will have acquired sufficient knowledge to:
 - Write a basic web page.
 - Create simple form with different input text,checkbox, email ...
 - Be ready to start to learn on java script course
 - Decorate the html with CSS.



- I. Introduction to HTML**
- II. HTML Working with text**
- III. HTML links**
- IV. HTML Images**
- V. HTML Lists**
- VI. HTML Tables**
- VII. HTML Forms**
- VIII. Styling HTML with CSS**
- IX. Introduce to HTML5/CSS3**

Course Audience and Prerequisite

- Course Audience:
 - suitable for those who wish to acquire initial web development knowledge as a first step into web development practices.
 - Also suitable for individuals with a general web development interest.
- Course pre-requisite:
 - None



Assessment Disciplines

- Class Participation: <100%>
- Passing Scores: <70%>



HTML INTRODUCTION

HTML INTRODUCTION

- What is HTML
- HTML versions
- HTML tags
- HTML Structure
- HTML Attribute (lang , title, href, size and alt)
- Void Elements and Comments
- Viewing the HTML Source Code in A Browser



HTML INTRODUCTION

- What is HTML?
- Markup language for describing web documents (web pages).
- HTML stands for Hyper Text Markup Language



HTML Versions

Version	Year
HTML	1991
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML5	2014

Version of HTML



HTML Introduction

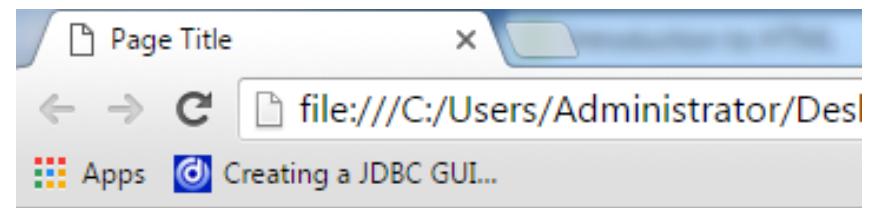
Example

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

Browser



My First Heading

My first paragraph.

Simple html page

HTML tags

- Keywords (tag names) surrounded by angle brackets: <tagname>content</tagname>
- Normally come in pairs like <p> and </p>
- Start/opening tag & end/closing tag



HTML Page Structure

```
<html>

  <head>
    <title>Page title</title>
  </head>

  <body>
    <h1>This is a heading</h1>
    <p>This is a paragraph.</p>
    <p>This is another paragraph.</p>
  </body>

</html>
```

HTML structure



HTML Attributes

- Provide additional information about an element
- Always = "value"
- specified in the start tag
- Come in **name/value pairs** like: name

```

```

HTML attribute

The lang Attribute

- The document language can be declared in the <html> tag.
- The language is declared in the lang attribute.

```
<!DOCTYPE html>
<html lang="en-US">
<body>
```

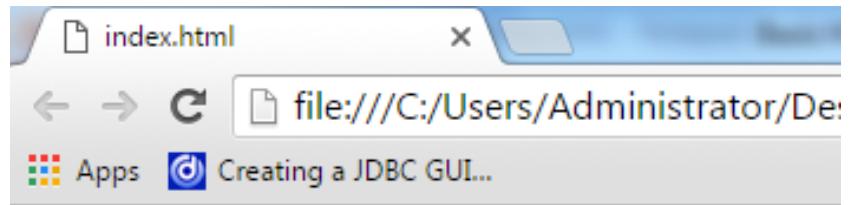
The lang attribute

The title Attribute

The title Attribute

```
0
1
2
3
4
5
6
7 <p title="About W3Schools">
8   W3Schools is a web
9     developer's site.
10    It provides tutorials
11      and references covering
12        many aspects of web
13          programming,
14            including HTML, CSS, JavaScript,
15              XML, SQL, PHP, ASP, etc.
16
17 </p>
```

Browser



About W3Schools

W3Schools is a web developer's site. It provides tutor

If you move the mouse over the paragraph above, a

The title attribute

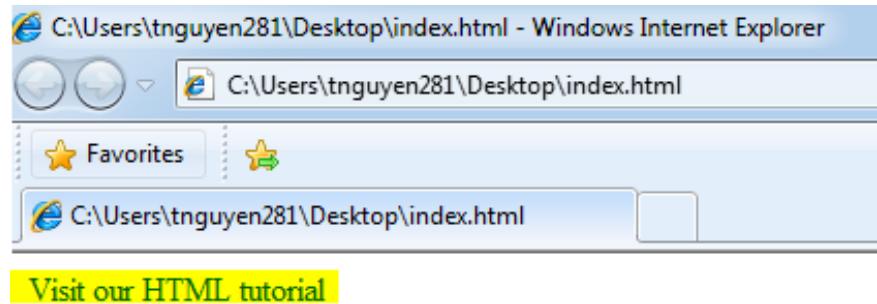
The href Attribute

The href attribute

```
<a href="url">link text</a>
```

```
<a href="http://www.w3schools.com/html/">  
Visit our HTML tutorial</a>
```

Browser:



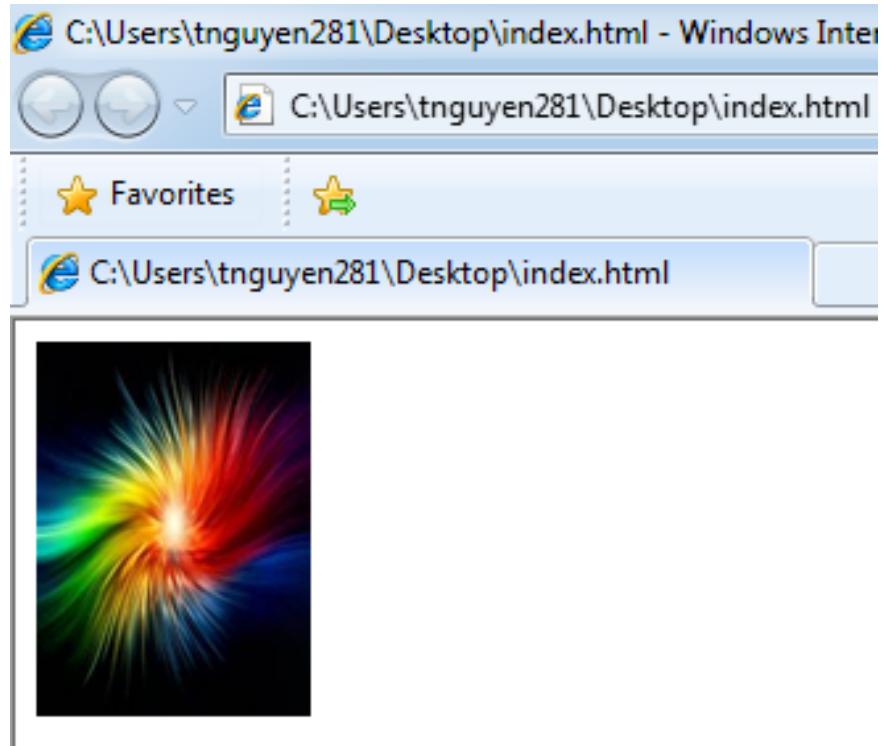
The href attribute

Size Attributes and alt Attributes

Size and alt Attribute

```
5 
```

Browser



The size and alt attribute

Void Elements and Comments

- Elements with no content.
- Can be written without an end tag (
 or
)
- Use <!-- and --> for comments

```
<!-- Do not display this at the moment  
  
-->
```

Comments elements

Viewing the HTML Source Code in A Browser

- Why we need to view HTML source code ?
- Chrome and Firefox: CTRL + U.
- Internet Explorer : right click + View source.



```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 
7
8 </body>
9 </html>
10
```

Firefox source
view

A black and white photograph showing a close-up of a person's hands holding an open book. The hands are positioned as if turning a page, with fingers visible. The book is thick, with many pages visible. The background is blurred.

HTML working with text

Paragraphs

Headings

White Spaces

b and i Elements

code and pre Elements

HTML Paragraphs- HTML Display

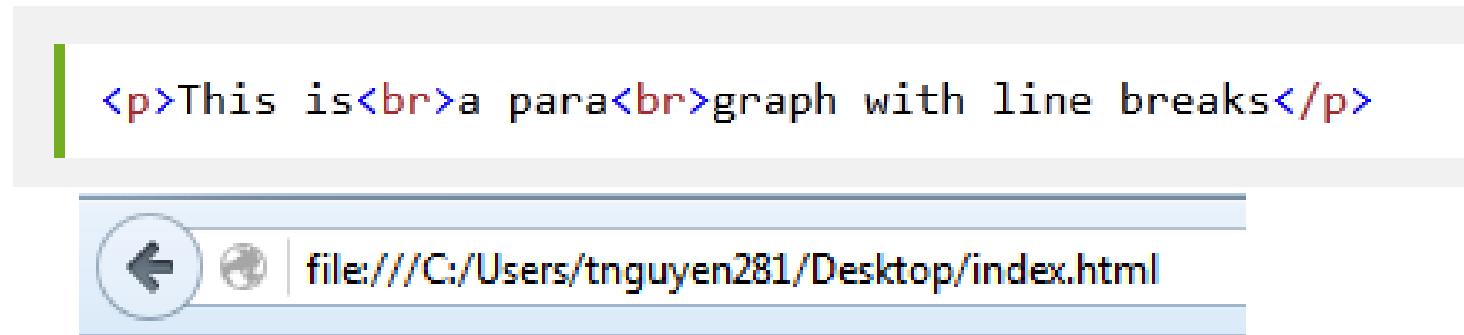
- <p> element defines a paragraph.
- How Browser display ?
 - Remove extra spaces and line.
 - Any number of spaces/new lines as only one space

```
4
5   =><p>
6     This paragraph
7       contains a lot of lines
8         in the source code,
9           but the browser
10          ignores it.
11      -</p>
```

This paragraph contains a lot of lines in the source code, but the browser ignores it.

HTML line break br

-
 element defines a line break.



This is
a para
graph with line breaks

Paragraph and line break
example

HTML White Spaces - b and i Elements

- White space :
- b and i element are used to present text in bold and italicized formats

Edit This Code:

```
<!DOCTYPE html>
<html>
<head>
    <title>Dolphins</title>
</head>
<body>
    <p><b>Whales</b> are <i>not</i> fish.</p>
    <p>More =&nbsp;&nbsp;&nbsp;&nbsp;= space</p>
</body>
</html>
```

[See Result »](#)

Result:

Whales are *not* fish.

More = = space

White space , b and I elements

HTML Working with Text

- HTML *Italic* and *Emphasized* Formatting
 - **<i>** element defines *italic* text, **without** any extra importance.
 - **** element defines *emphasized* text, with added semantic importance.
- HTML **Bold** and **Strong** Formatting
 - **** element defines **bold** text, **without** any extra importance.
 - **** element defines **strong** text, with added semantic "strong" importance.



HTML Paragraphs - pre Element

- The HTML <pre> element defines preformatted text.
- Preserves both spaces and line breaks

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<p>The pre tag preserves both spaces and line breaks:
</p>

<pre>
    My Bonnie lies over the ocean.
    My Bonnie lies over the sea.
    My Bonnie lies over the ocean.
    Oh, bring back my Bonnie to me.
</pre>

</body>
</html>
```

[See Result »](#)

Result:

The pre tag preserves both spaces and line breaks:

My Bonnie lies over the ocean.
My Bonnie lies over the sea.
My Bonnie lies over the ocean.
Oh, bring back my Bonnie to me.

Pre element

csc

HTML Headings

- Headings are defined with the `<h1>` to `<h6>` tags.
- `<h1>` defines the most important heading. `<h6>` defines the least important heading.

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>

</body>
</html>
```

See Result »

Result:

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Headings



HTML Links

- HTML links are hyperlinks.
- A hyperlink is a text or an image you can click on, and jump to another document.
- Defined with the `link text`

Edit This Code:

See Result »

Result:

```
<!DOCTYPE html>
<html>
<body>

<p><a href="html_images.asp">HTML Images</a> is a link
to a page on this website.</p>

<p><a href="http://www.w3.org/">W3C</a> is a link to a
website on the World Wide Web.</p>

</body>
</html>
```

[HTML Images](#) is a link to a page on this website.

[W3C](http://www.w3.org/) is a link to a website on the World Wide Web.

Link example



HTML Links - The target Attribute

```
<a href="http://www.w3schools.com/" target="_blank">Visit  
W3Schools!</a>
```

Target Value	Description
_blank	Opens the linked document in a new window or tab
_self	Opens the linked document in the same frame as it was clicked (this is default)
_parent	Opens the linked document in the parent frame
_top	Opens the linked document in the full body of the window
framename	Opens the linked document in a named frame

Target attribute

HTML Images

- Images are defined with the `` tag.
- Void element
- Use alt attribute for alternate text.

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>



</body>
</html>
```

[See Result »](#)

Result:



Image example

HTML Images

- To use an image as a link, simply nest the `` tag inside the `<a>` tag

Edit This Code:

[See Result »](#)

Result:

```
<!DOCTYPE html>
<html>
<body>

<p>The image is a link. You can click on it.</p>

<a href="default.asp">
    
</a>

<p>Add "border:0;" to prevent IE9 (and earlier) from
displaying a border around the image.</p>

</body>
</html>
```

The image is a link. You can click on it.



Add "border:0;" to prevent IE9 (and earlier) from displaying a border around the image.

Image as a link



HTML Lists

Unordered HTML Lists

Ordered HTML Lists

Unordered HTML Lists

- An unordered list starts with the `` tag. Each list item starts with the `` tag.

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<h2>Unordered List with Default Bullets</h2>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>

</body>
</html>
```

[See Result »](#)

Result:

Unordered List with Default Bullets

- Coffee
- Tea
- Milk



Unordered lists

Unordered HTML Lists - The Style Attribute

Style	Description
list-style-type:disc	The list items will be marked with bullets (default)
list-style-type:circle	The list items will be marked with circles
list-style-type:square	The list items will be marked with squares
list-style-type:none	The list items will not be marked

Unordered list attribute

Unordered HTML Lists –Circle style

Edit This Code:

[See Result »](#)

Result:

```
<!DOCTYPE html>
<html>
<body>

<h2>Unordered List with Circle Bullets</h2>

<ul style="list-style-type:circle">
    <li>Coffee</li>
    <li>Tea</li>
    <li>Milk</li>
</ul>

</body>
</html>
```

Unordered List with Circle Bullets

- Coffee
- Tea
- Milk

Unordered Circle style lists



Ordered HTML Lists

- An ordered list starts with the `` tag. Each list item starts with the `` tag.
- The list items will be marked with numbers:

Edit This Code: [See Result »](#) Result:

```
<!DOCTYPE html>
<html>
<body>

<h2>Ordered List</h2>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

Ordered List

1. Coffee
2. Tea
3. Milk

Ordered lists

Ordered HTML Lists - The Type Attribute

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

Ordered list attribute

Uppercase Roman Numbers

Edit This Code:

[See Result »](#)

```
<!DOCTYPE html>
<html>
<body>

<h2>Ordered List with Roman Numbers</h2>

<ol type="I">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

Result:

Ordered List with Roman Numbers

- I. Coffee
- II. Tea
- III. Milk

Ordered lists – uppercase Roman style

HTML tables

HTML tables

- Tables are defined with the <table> tag.
- Tables are divided into table rows with the <tr> tag.
- Table rows are divided into table data with the <td> tag.
- A table row can also be divided into table headings with the <th> tag.
- Table data <td> are the data containers of the table.



HTML tables

Table element

```
<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Points</th>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
</table>
```

Browser

Firstname	Lastname	Points
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

Table example

An HTML Table with a Border Attribute

- Not specify a border table will be displayed without borders.
- Using the border attribute to add border.

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<table border="1" style="width:100%">
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>

</body>
</html>
```

See Result »

Result:

Jill	Smith	50
Eve	Jackson	94
John	Doe	80

Table - border attribute



Table Cells that Span Many Columns

```
<table style="width:100%">
  <tr>
    <th>Name</th>
    <th colspan="2">Telephone</th>
  </tr>
  <tr>
    <td>Bill Gates</td>
    <td>555 77 854</td>
    <td>555 77 855</td>
  </tr>
</table>
```

Name	Telephone	
Bill Gates	555 77 854	555 77 855

Table –split columns

Table Cells that Span Many Rows

```
<table style="width:100%">
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">Telephone:</th>
    <td>555 77 854</td>
  </tr>
  <tr>
    <td>555 77 855</td>
  </tr>
</table>
```

Name:	Bill Gates
Telephone:	555 77 854
	555 77 855

Table –split rows

An HTML Table With a Caption

```
<table style="width:100%">
  <caption>Monthly savings</caption>
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$50</td>
  </tr>
</table>
```

Monthly savings	
Month	Savings
January	\$100
February	\$50

Table – Capption

HTML Forms

HTML Forms

- The `<form>` element defines an HTML form:
- `<form>`
- ...form elements
- `</form>`
- Form elements are different types of input elements, checkboxes, radio buttons, submit buttons, and more.



Form element - The Action Attribute

- The action attribute defines the action to be performed when the form is submitted.
- Using submit button to submit form to a server (web page or web server).
- If the action attribute is omitted, the action is set to the current page.

```
<form action="action_page.php">
```

Form – action

Form element- The Method Attribute

- The method attribute specifies the HTTP method (GET or POST) to be used when submitting the forms

```
<form action="action_page.php" method="get">
```

or:

```
<form action="action_page.php" method="post">
```

Form – method



Form element- The Method Attribute

- When to use GET (default method)?
 - Without sensitive information
 - When you use GET, the form data will be visible in the page address
 - action_page.php?firstname=Mickey&lastname=Mouse
- When to Use POST?
 - updating data, or includes sensitive information (password).
 - POST offers better security.

HTM Form Attributes

Attribute	Description
accept-charset	Specifies the charset used in the submitted form (default: the page charset).
action	Specifies an address (url) where to submit the form (default: the submitting page).
autocomplete	Specifies if the browser should autocomplete the form (default: on).
enctype	Specifies the encoding of the submitted data (default: is url-encoded).
method	Specifies the HTTP method used when submitting the form (default: GET).
name	Specifies a name used to identify the form (for DOM usage: document.forms.name).
novalidate	Specifies that the browser should not validate the form.
target	Specifies the target of the address in the action attribute (default: _self).

Form attributes

HTML Forms – The <input> Element

- The <input> element is the most important form element.
- The <input> element has many variations, depending on the type attribute.

Type	Description
text	Defines normal text input
radio	Defines radio button input (for selecting one of many choices)
submit	Defines a submit button (for submitting the form)

Popular input element



HTML Forms – The <input> Element

- Text Input
 - <input type="text"> defines a one-line input field for text input

The image shows a screenshot of a web browser displaying a simple HTML form. On the left, the form's source code is visible in a light gray background:

```
<form>
  First name:<br>
  <input type="text" name="firstname"><br>
  Last name:<br>
  <input type="text" name="lastname">
</form>
```

On the right, the rendered form is shown with two text input fields. The first field is labeled "First name:" and the second is labeled "Last name:". Both labels are in bold black font, and the input fields are empty rectangular boxes.

Form - Input example

HTM Forms – The <input> Element

- Radio Button Input
 - Radio buttons let a user select ONE of a limited number of choices

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<form>
    <input type="radio" name="gender" value="male"
checked> Male<br>
    <input type="radio" name="gender" value="female">
Female<br>
    <input type="radio" name="gender" value="other">
Other
</form>

</body>
</html>
```

See Result »

Result:

Male
 Female
 Other

Radio button



HTM Forms – The <input> Element

- The Submit Button
 - <input type="submit"> defines a button for submitting a form.

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<form action="action_page.php">
  First name:<br>
  <input type="text" name="firstname" value="Mickey">
  <br>
  Last name:<br>
  <input type="text" name="lastname" value="Mouse">
  <br><br>
  <input type="submit" value="Submit">
</form>

<p>If you click the "Submit" button, the form-data will be sent to a page called "action_page.php".</p>

</body>
</html>
```

See Result »

Result:

First name:
Mickey

Last name:
Mouse

Submit

If you click the "Submit" button, the form-data will be sent to a page called "action_page.php".

Form – submit button

HTM Forms – The <input> Element

- Input Type: password
 - <input type="password"> defines a password field

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<form action="">
User name:<br>
<input type="text" name="userid">
<br>
User password:<br>
<input type="password" name="psw">
</form>

<p>The characters in a password field are masked
(shown as asterisks or circles).</p>

</body>
</html>
```

See Result »

Result:

User name:
Trinh Nguyen

User password:

The characters in a password field are masked (shown as asterisks or circles).

Form – password input

HTM Forms – The <input> Element

- Input Type: checkbox
 - <input type="checkbox"> defines a checkbox.
 - Checkboxes let a user select ZERO or MORE options of a limited number of choices.

Edit This Code:

See Result »

```
<!DOCTYPE html>
<html>
<body>

<form action="action_page.php">


Result:



I have a bike  
 I have a car



Submit Query


```

Form – checkbox input



HTM Forms – The <input> Element

- Input Type: email
 - The <input type="email"> is used for input fields that should contain an e-mail address.
 - Depending on browser support, the e-mail address can be automatically validated when submitted.

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<form action="action_page.php">
    E-mail:
    <input type="email" name="email">
    <input type="submit">
</form>

<p>
<b>Note:</b><code>type="email"</code> is not supported in IE9 and earlier.</p>

</body>
</html>
```

See Result »

Result:

E-mail: tnguyen@csc.com |

Note:<code>type="email"</code> is not supported in IE9 and earlier.

Form – email input

HTML Form: Drop-down and Text Area

<select> element defines a **drop-down**

```
<select name="cars">
  <option value="volvo">Volvo</option>
  <option value="saab">Saab</option>
  <option value="fiat">Fiat</option>
  <option value="audi">Audi</option>
</select>
```

Drop-down example

<textarea> element defines a multi-line input field

```
<textarea name="message" rows="10" cols="30">
The cat was playing in the garden.
</textarea>
```

textarea example

Styling HTML with CSS

Styling HTML with CSS

- CSS stands for Cascading Style Sheets
- Styling can be added to HTML elements in 3 ways:
 - Inline - using a style attribute in HTML elements
 - Internal - using a `<style>` element in the HTML `<head>` section
 - External - using one or more external CSS files
- The most common way to add styling, is to keep the styles in separate CSS files.



Styling HTML with CSS

- **Inline Styling (Inline CSS)**
 - Inline styling is used to apply a unique style to a single HTML element:
 - Inline styling uses the style attribute.
 - This example changes the text color of the `<h1>` element to blue:

Edit This Code:

```
<!DOCTYPE html>
<html>
<body>

<h1 style="color:blue;">This is a Blue Heading</h1>

</body>
</html>
|
```

[See Result »](#)

Result:

This is a Blue Heading

Inline Styling



Styling HTML with CSS

- Internal Styling (Internal CSS)
 - Internal styling is used to define a style for one HTML page.
 - Internal styling is defined in the `<head>` section of an HTML page, within a `<style>` element:

Edit This Code: [See Result »](#)

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: lightgrey;}
h1 {color: blue;}
p {color: green;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

Result:

This is a heading

This is a paragraph.

Internal Styling



Styling HTML with CSS

- External Styling (External CSS)
 - used to define the style for many pages.
 - Able to change the look of an entire web site by changing one file!

Edit This Code:

[See Result »](#)

Result:

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

This is a heading

This is a paragraph.

```
body {
  background-color: lightgrey;
}

h1 {
  color: blue;
}

p {
  color: green;
}
```

External Styling

csc

Styling HTML with CSS

- The id Attribute
 - To define a special style for one special element:
 - Add an id attribute to the element:
 - Then define a different style for the (identified) element:

Edit This Code:

```
<!DOCTYPE html>
<html>
<head>
<style>
p#p01 {
    color: blue;
}
</style>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p id="p01">I am different.</p>

</body>
</html>
```

See Result »

Result:

This is a paragraph.

This is a paragraph.

This is a paragraph.

I am different.

Id Attribute



Styling HTML with CSS

- The class Attribute
 - To define a style for a special type (class) of elements:
 - add a class attribute to the element:
 - Define a different style for all elements with the specified class:

Edit This Code:

```
<!DOCTYPE html>
<html>
<head>
<style>
p.error {
    color: red;
}
</style>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p class="error">I am different.</p>
<p>This is a paragraph.</p>
<p class="error">I am different too.</p>

</body>
</html>
```

See Result »

Result:

This is a paragraph.

This is a paragraph.

I am different.

This is a paragraph.

I am different too.

class Attribute

- I. Introduction to HTML**
- II. HTML Working with text**
- III. HTML links**
- IV. HTML Images**
- V. HTML Lists**
- VI. HTML Tables**
- VII. HTML Forms**
- VIII. Styling HTML with CSS**
- IX. Introduce to HTML5/CSS3**

HTML5 & CSS3

Trinh Nguyen
tnguyen281@csc.com

HTML5

Introduction

What is HTML5?

- HTML5 is the latest version of HTML.
- HTML5 is a cooperation between the W3C and the WHATWG
- It was specially designed to deliver rich content without the need for additional plugins. The current version delivers everything from animation to graphics, music to movies, and can also be used to build complicated web applications.
- HTML5 is also cross-platform. It is designed to work whether you are using a PC, or a Tablet, a Smartphone, or a Smart TV.



Introduction

HTML 5.0 Plan to release

- The HTML5 specification isn't finished yet!
- Release a stable HTML5 Recommendation by the end of 2014
- HTML 5.1 specification Recommendation by the end of 2016.

	2012	2013	2014	2015	2016
HTML 5.0	Candidate Rec	Call for Review	Recommendation		
HTML 5.1	1st Working Draft		Last Call	Candidate Rec	Recommendation
HTML 5.2				1st Working Draft	

Introduction

Browser Support



	Chrome	Firefox	Internet Explorer	Opera	Safari
Upcoming			Edge 13 453		9.0 400
Current	44 526	40 467	Edge 402	31 525	8.0 396
Older	42 523	37 449	11 336	29 519	7.0 352
	40 511	35 449	10 297	26 497	6.0 326
	36 486	28 416	9 113	12.10 338	5.1 250
	28 433	18 371	8 33		

Source: <http://html5test.com/results/desktop.html>

Introduction

A Minimum HTML5 Document

Below is a simple HTML5 document, with the minimum of required tags:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>Title of the document</title>
  </head>
  <body>
    Content of the document......
  </body>
</html>
```



Introduction

Updated HTML5 elements

HTML 4.01 Transitional:

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

The meta declaration in HTML4

```
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

In HTML 4.01, we specify the type attribute as text/javascript:

```
<script type="text/javascript" src="file.js"></script>
```

The link tag in HTML 4.01:

```
<link rel="stylesheet" type="text/css" href="file.css">
```



Introduction

Updated HTML5 elements

- **<!DOCTYPE html>**

Always add the !DOCTYPE tag so that the browser knows what type of document to expect.

- **Meta declaration**

```
<meta charset="UTF-8">
```

- **Script tag**

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

- **Link tag**

```
<link rel="stylesheet" href="file.css">
```



Introduction

HTML5 Semantic Elements

Tag	Description
<article>	Defines an article in the document
<aside>	Represents content related to the main area of the document. This is usually expressed in sidebars that contain elements like related posts, tag clouds, etc.
<header>	Defines a header for the document or each section contained in the page
<main>	Defines the main content of a document. You should only use this element once per page
<footer>	Defines a footer for the document or each section contained in the page
<nav>	Defines navigation links in the document
<section>	Defines a section in the document
....



New Semantic/Structural Elements

<section>....</section>

- The section element represents a generic document or application section.
- It's used for grouping together thematically related content. It's not like a div has no semantic meaning, but the section element does.

 ONE Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 TWO Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 THREE Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 FOUR Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 FIVE Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.
 SIX Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 SEVEN Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 EIGHT Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 NINE Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.	 TEN Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent euismod ultrices ante, ac laoreet nulla vestibulum adipiscing.

New Semantic/Structural Elements

<header>....</header>

- Usually appears at the top of a document or section
- It is defined by its content rather than its position.
- There can be many different headers on a page.

Example :

```
<section>
  <header>
    <h1>The heading of the section</h1>
    <p>This is content in the header.</p>
  </header>
  <p>This is some information within the section.</p>
</section>
```

New Semantic/Structural Elements

<footer>....</footer>

- Usually appears at the bottom of a document or section
- It is defined by its content rather than its position.
- There can be many different footer on a page.

Example:

```
<section>
  <header>
    <h1>The heading of the section</h1>
    <p>This is content in the header.</p>
  </header>
  <p>This is some information within the section.</p>
  <footer>
    <p>By "Author Name"</p>
  </footer>
</section>
```



New Semantic/Structural Elements

<aside>....</aside>

- An aside element is appropriate when it is used to represent content that is not the primary focus of an article or page, but it is still related to the article or page..

Example :

```
<section>
  <header>
    <h1>The heading of the section</h1>
    <p>This is content in the header.</p>
  </header>
  <p>This is some information within the section.</p>
  <aside>
    <p>Some secondary information.</p>
  </aside>
  <footer>
    <p>By "Author Name"</p>
  </footer>
</section>
```



New Semantic/Structural Elements

<article>....</article>

- Determining if a particular piece of content is “self-contained:”

Some uses for the article tag:

- A blog post
- A news story
- A comment on a post
- A review



New Semantic/Structural Elements

<main>....</main>

- Determining if a particular piece of content is “self-contained:”
- The main content area consists of content that is directly related to or expands upon the central topic of a document or central functionality of an application.

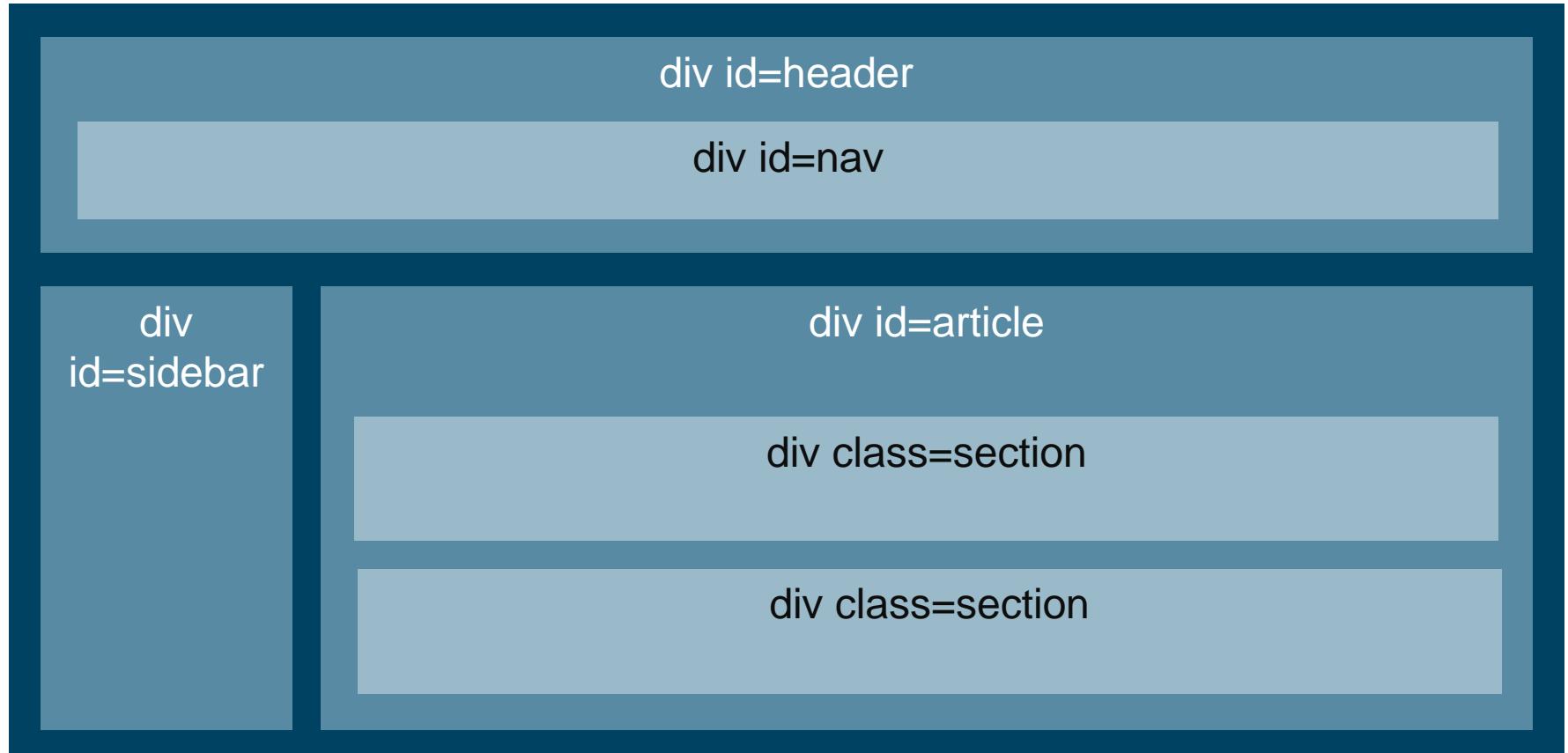
Some uses for the main tag:

- Do not include more than one main element in a document
- Do not include the main element inside of an article, aside, footer, header, or nav element



Introduction

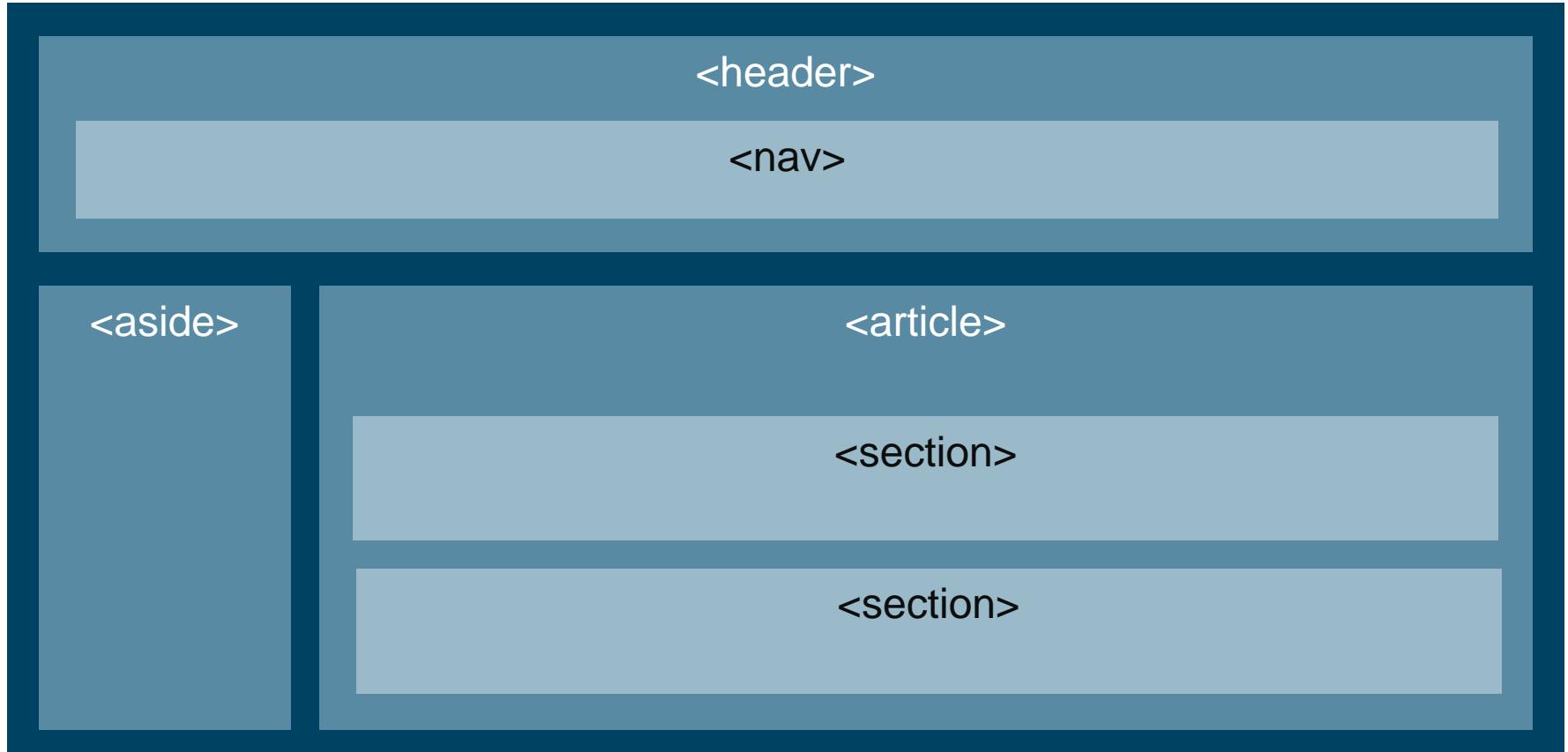
HTML4 structure



Introduction

Semantic elements in HTML5

- Our code become more readable and maintainable.



Forms

New Input Types

<input>	type
<input type="text"/>	text
<input type="search"/>	search
<input type="url"/>	url
<input type="tel"/>	tel
<input type="time"/>	time
<input type="number"/>	number
<input type="range"/>	range
<input type="color"/>	color

The image displays three examples of new input types:

- Date:** A date input field showing a calendar for July 2013. The selected date is Tuesday, July 2nd. The input value is "07/02/2013".
- Month:** A month input field showing a calendar for September 2014. The input value is "ember, 2014".
- Week:** A week input field showing a calendar for January 2016. The input value is "ek 03, 2016".

Not all browsers support all the new form elements. However, you can already start using them; If they are not supported, they will behave as regular text fields.

Form

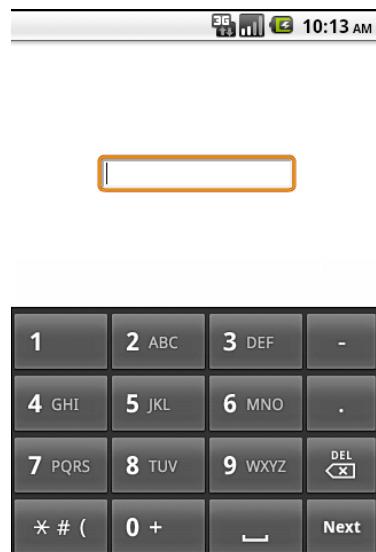
Input type on mobile

- Added usability on mobile devices

type="text"



type="number"



type="email"



type="tel"



Form

New form elements

HTML5 has the following new form elements:

<datalist> : Specifies a list of pre-defined options for an <input> element



```
<input list="browsers" name="browsers">
<datalist id="browsers">
    <option value="Internet Explorer">
    <option value="Firefox">
    <option value="Chrome">
    <option value="Opera">
    <option value="Safari">
</datalist>
```

Graphics

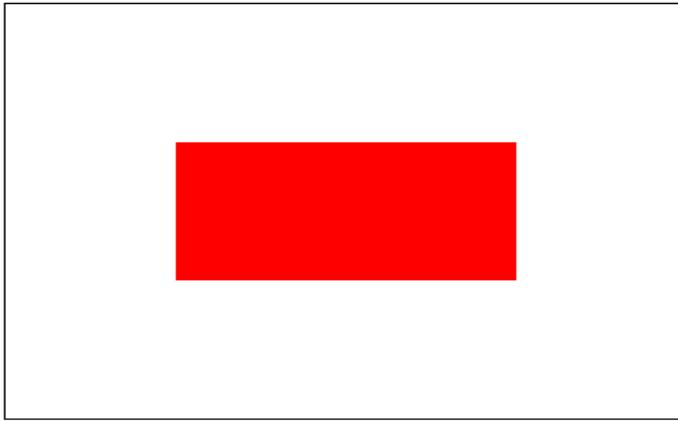
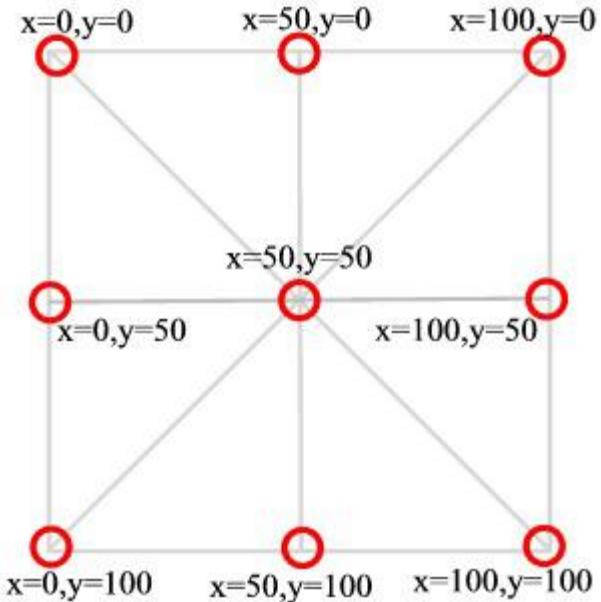
What is Canvas?

- The HTML5 <canvas> element is used to draw graphics, on the fly, via scripting (usually JavaScript).
- The <canvas> element is only a container for graphics. You must use a script to actually draw the graphics.
- Canvas has several methods for drawing.
 - Shapes
 - Defining paths
 - Creating gradients
 - Applying transformations



Graphics

Canvas



```
<canvas id="myCanvas" width="400" height="300"></canvas>

<script type="text/javascript">

function drawRect() {
    var myCanvas = document.getElementById("myCanvas");
    var myCanvasContext = myCanvas.getContext("2d");
    myCanvasContext.fillStyle = "#FF0000";
    myCanvasContext.fillRect(100, 100, 200, 100);
}

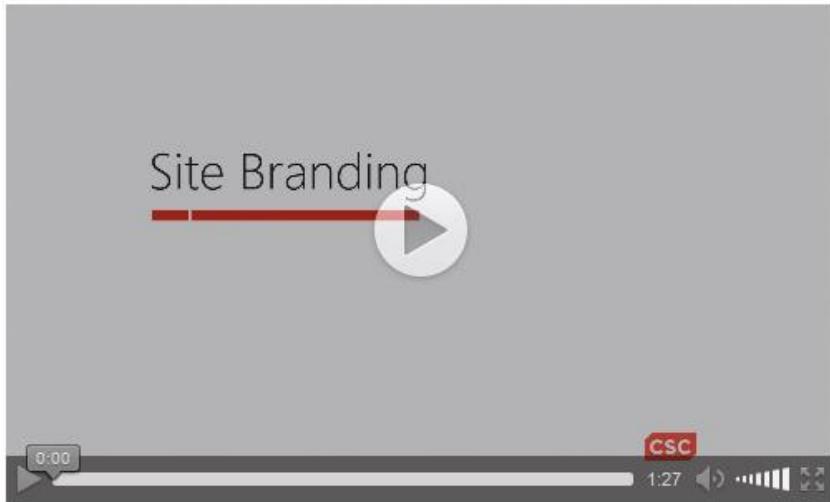
drawRect();

</script>
```

Media

Video

- Problem with Flash Player on your device?
- Easy to have a video on your page



```
<video width="500" height="300" controls>
  <source src="video\CSC.MP4" type="video/mp4">
  <source src="video\CSC.ogg" type="video/ogg">
  Your browser does not support the video tag.
</video>
```



Media

Audio



```
<audio controls>
  <source src="audio/Song.mp3" type="audio/mpeg">
  <source src="audio/Song.ogg" type="audio/ogg">
  Your browser does not support this audio format.
</audio>
```

Media

Video Formats and Browser Support

Browser	MP4	WebM	Ogg
Internet Explorer	YES	NO	NO
Chrome	YES	YES	YES
Firefox	YES Update 1: Firefox 21 on Windows and Android now supports MP4 Update 2: Firefox 30 on Linux now supports MP4	YES	YES
Safari	YES	NO	NO
Opera	YES (from Opera 25)	YES	YES

Audio Formats and Browser Support

Browser	MP3	Wav	Ogg
Internet Explorer	YES	NO	NO
Chrome	YES	YES	YES
Firefox	NO Update: Firefox 21 running on Windows 7, Windows 8, Windows Vista, and Android now supports MP3	YES	YES
Safari	YES	YES	NO
Opera	YES	YES	YES

APIs

Geolocation

Figure out where you are in the world by:

- Your IP address
- Your wireless network connection
- Which cell tower your phone is talking to
- Dedicated GPS hardware

```
function initiate_geolocation() {
    navigator.geolocation.getCurrentPosition(handle_geolocation_query);
}

function handle_geolocation_query(position){
    alert('Lat: ' + position.coords.latitude + ' ' +
        'Lon: ' + position.coords.longitude);
}
```



Where are you?



CSS3

CSS3

border-radius

The border-radius property applies rounded corners to borders.

```
.box {  
    border-radius: 50%;  
}
```

```
.box {  
    border-top-left-radius: 15px;  
    border-top-right-radius: 15px;  
    border-bottom-right-radius: 15px;  
    border-bottom-left-radius: 15px;  
}  
  
.box {  
    -webkit-border-radius: 0; /* Safari, Chrome */  
    -moz-border-radius: 0; /* Firefox */  
    border-radius: 0;  
}  
  
.box {  
    border-radius: 4px 15px 12px 10px;  
        /* tl      tr      br      bl */  
}
```

CSS3

box-shadow

The box-shadow property specifies a shadow on an element.

box-shadow: <inset> <offset-x> <offset-y> <blur-radius> <spread-radius> <color>

- <inset> If it is not specified (which is the default), a drop shadow is created, rather than an inset shadow.
- <blur-radius> : The blur-radius alters the blur amount of the shadow, causing it to become bigger and lighter (with a larger value).
- <spread-radius> : The spread-radius causes the shadow to expand or shrink.

```
div {  
    -moz-box-shadow: 10px 10px 5px #888;  
    -webkit-box-shadow: 10px 10px 5px #888;  
    box-shadow: 10px 10px 5px #888;  
}
```



CSS3 > Text Effects

Word wrapping

This paragraph contains a very long word:
thisisaveryveryveryveryveryverylongword.
The long word will break and wrap to the next line.

This paragraph contains a very long word:
thisisaveryveryveryveryveryverylongword.
The long word will break and wrap to the next line.

```
p {  
    word-wrap: break-word;  
}
```



CSS3 > Text Effects

Property	Description
hanging-punctuation	Specifies whether a punctuation character may be placed outside the line box
punctuation-trim	Specifies whether a punctuation character should be trimmed
text-align-last	Describes how the last line of a block or a line right before a forced line break is aligned when text-align is "justify"
text-emphasis	Applies emphasis marks, and the foreground color of the emphasis marks, to the element's text
text-justify	Specifies the justification method used when text-align is "justify"
text-outline	Specifies a text outline
text-overflow	Specifies what should happen when text overflows the containing element
text-shadow	Adds shadow to text
text-wrap	Specifies line breaking rules for text
word-break	Specifies line breaking rules for non-CJK scripts
word-wrap	Allows long, unbreakable words to be broken and wrap to the next line

CSS3

CSS3 Color Module

New color formats in CSS3

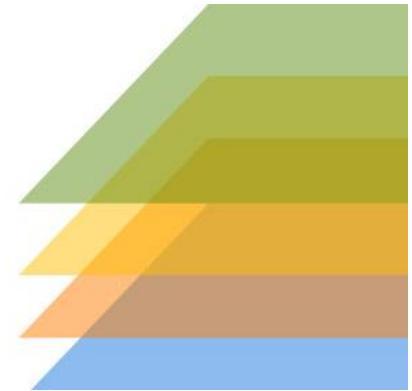
- HSL – hsl(hue, saturation, lightness)
- CMYK – cmyk(cyan, magenta, yellow, black)
- HSLA – hsl(hue, saturation, lightness, alpha)
- RGBA – rgba(red, green, blue, alpha)

```
div {  
    background-color: hsl(0,100%, 50%);  
}
```



CSS3

Multiple Background Images



```
div {  
    background-image: url(sheep.png), url(betweengrassandsky.png);  
    background-position: center bottom, left top;  
    background-repeat: no-repeat;  
}
```

Multiple Columns

Cras urna metus, aliquam sed, condimentum eget, pellentesque scelerisque, massa. Nullam et est id augue blandit tincidunt. Ut consectetur, justo eleifend varius facilisis, tortor lorem pharetra nunc, ac sodales purus nunc semper tortor. Integer nec

urna. Praesent scelerisque, ipsum nec aliquet volutpat, sem ante sagittis risus, sed condimentum magna libero luctus elit. Donec pede purus, hendrerit non, laoreet vel, porta ut, neque. Cras eu lacus. Pellentesque tempus mattis magna. Nullam id nisl. Quisque dolor lorem,

commodo ac, pharetra sed, nonummy nec, nulla. Mauris purus. Suspendisse eget mauris nec justo eleifend vestibulum. Nunc ut eros sed pede pretium congue. Etiam in elit ut nisi ultrices hendrerit. Cras vulputate ultrices quam. Curabitur venenatis. Cras sed nisi.

```
div {  
    -moz-column-count: 3;  
    -moz-column-gap: 1em;  
    -moz-column-rule: 1px solid black;  
  
    -webkit-column-count: 3;  
    -webkit-column-gap: 1em;  
    -webkit-column-rule: 1px solid black;  
}
```

Q&A

Thank You

Revision History

Date	Version	Description	Updated by	Reviewed and Approved By
July 20 2013	1	Release	Trinh Nguyen	Quang Tran, Hung Nguyen



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