

# Intro To HTML & Formatting, Part 2

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Essentials of Web Design

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# HTML Elements

Defining document structure

HTML has a lot of elements that are defined to create documents for the web

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# Why do we need different elements?

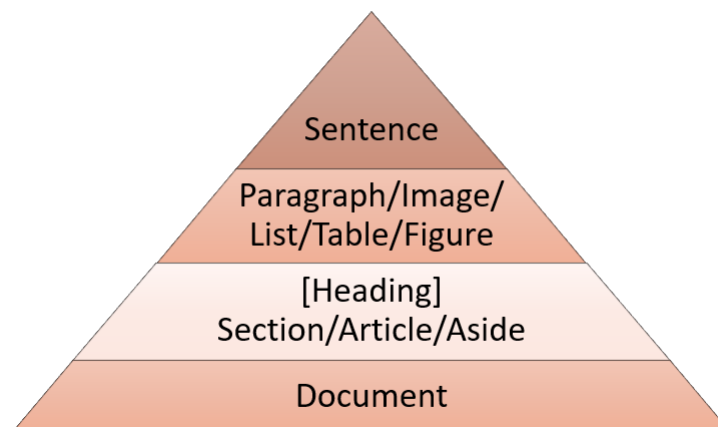
## Written Language

Written text, in any language, includes rules and conventions for constructing documents so that they effectively present their content

In the English language, our documents can include articles, sections, asides, headings, lists, tables, images, and so on that are used to arrange the document's information in a logical fashion that conveys meaning to the reader

We can drill down further with paragraphs, each of which consists of one or more sentences

# Why do we need different elements?



## Inline Elements

Elements we can apply at the 'sentence level'

We call these 'sentence level' elements Inline Elements

These elements modify content within a sentence (or sentences) without breaking it/them up

## `<b>` / `<strong>`

Modifies text, making it appear bold

```
This is <b>bold text</b>  
or  
This is <strong>bold text</strong>
```



```
This is bold text  
or  
This is bold text
```

`<i>/<em>`

Modifies text, making it appear italic

```
This is <i>italic text</i>
or
This is <em>italic text</em>
```



This is *italic text*  
or  
This is *italic text*

## Inline Elements

<code>&lt;a&gt;</code>	<code>&lt;label&gt;</code>
<code>&lt;abbr&gt;</code>	<code>&lt;q&gt;</code>
<code>&lt;acronym&gt;</code>	<code>&lt;script&gt;</code>
<code>&lt;button&gt;</code>	<code>&lt;select&gt;</code>
<code>&lt;cite&gt;</code>	<code>&lt;span&gt;</code>
<code>&lt;code&gt;</code>	<code>&lt;sub&gt;</code>
<code>&lt;img&gt;</code>	<code>&lt;sup&gt;</code>
<code>&lt;input&gt;</code>	<code>&lt;textarea&gt;</code>
<code>&lt;kbd&gt;</code>	

## The Flow

We'll see, when we start with CSS, that we can modify the default appearance of each of these elements to suit our needs

These elements, however, provide us with a way to modify the structure of a document as well as its appearance

The big takeaway here is that they are structural elements that don't break the flow of the document

When the document is rendered by a browser, it starts in the upper left corner and 'flows' across the display until it reaches its right edge

It then starts at the beginning of the next line, and so on, rendering the document line-by-line

## Paragraph

`<p>...</p>`

The first of these elements we're going to talk about, appropriately enough, is the paragraph element - `<p>`

As with writing, a paragraph consists of one or more sentences

Using HTML, other elements can be included inside the paragraph element, but it usually consists of text (and inline elements) only

They 'break the flow' of the document's rendering, reset the cursor at the beginning of the next line, add whitespace, display, and add more whitespace

## <p>

```
<p>
  This is a paragraph. It may have one
  or more sentences. It sometimes
  includes <b>inline elements</b>
</p>
```



This is a paragraph. It may have one or more sentences. It sometimes includes **inline elements**

## <br> (or <br />)

Standalone (void) element  
Causes a line break, with no extra space  
Equivalent to hitting the return key once

```
This is some content<br>
This is a line break<br>
This is some other content
```



This is some content  
This is a line break  
This is some other content

## Paragraph vs Break Example

```
<p>
  This is a paragraph of text.
  Notice the spacing above
  and below the text.
</p>

This is just normal text that is not
inside a set of paragraph tags<br>
A break was used to move this line down.<br>
There is no white space above or below
this block of text
```

Spacing above and below  
the paragraph

This is a paragraph of text. Notice the spacing above and below the text.

This is just normal text that is not inside a set of paragraph tags  
A break was used to move this line down.

There is no white space above or below this block of text

Only a break tag was  
used here, so no  
spacing above and below

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**<hr>** (or **<hr />**)

Standalone element

Inserts a horizontal line in the document

Used to separate sections of text

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## <hr>

```

<p>
  This is a paragraph of text.
  Notice the spacing above
  and below the text.
</p>

<hr>

This is just normal text that is not
inside a set of paragraph tags.<br>
A break was used to move this line down.<br>
There is no white space above or below
this block of text

```

The <hr> element is a standalone (or void) element

This is a paragraph of text. Notice the spacing above and below the text.

This is just normal text that is not inside a set of paragraph tags  
A break was used to move this line down.  
There is no white space above or below this block of text

The <hr> element inserted a horizontal line. We will learn how to change the look and size of the horizontal line when we learn CSS.

## What's with the slash (/)?

<br /> <hr />

This is an old convention that's still valid

It dates back to the old XHTML standard

Either is OK, but I usually omit the slash

Visual Studio Code still defaults to the slash, when you use autocomplete



`<h1>` `<h2>` `<h3>` `<h4>` `<h5>` `<h6>`

Causes text in between to be displayed as formatted headings

1 is the largest, 6 is the smallest

Logically groups related content

Will create a blank line after the heading

Makes the text bold as well as resizing it

`<h3>` is about the default font size

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`<h1>` `<h2>` `<h3>` `<h4>` `<h5>` `<h6>`

Anything below `h3` (`h4-h6`) is usually smaller than regular text and rarely used. Most of the time, a heading is used to make the text larger and bold.

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

**This is a Heading 1**

**This is a Heading 2**

**This is a Heading 3**

**This is a Heading 4**

**This is a Heading 5**

**This is a Heading 6**

Notice the spacing above and below each heading. Also, it is automatically resized and bolded.

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## <blockquote>

Will indent the left (and sometimes right, depending on the browser) margin for longer blocks of quoted text

## Blockquote Example

```
<p>
This is paragraph text.
This is paragraph text.
This is paragraph text.
This is paragraph text.
This is paragraph text.
This is paragraph text.
</p>
<blockquote>
This is blockquote text.
This is blockquote text.
This is blockquote text.
This is blockquote text.
This is blockquote text.
This is blockquote text.
This is blockquote text.
</blockquote>
```

This is paragraph text. This is paragraph text. This is paragraph text. This is paragraph text. This is paragraph text. This is paragraph text. This is paragraph text.

This is blockquote text. This is blockquote text. This is blockquote text. This is blockquote text. This is blockquote text. This is blockquote text. This is blockquote text.

Notice the indenting from both the left and right margin for the text that is inside the blockquote tags.

## Special Characters

To include special characters (like ©, ã, Δ, and so on) in an HTML document you must use character codes

Character codes always begin with **&** and end with **;**

<http://www.tntluoma.com/sidebars/codes/>

Example codes:

<	=	&lt;	or	&#60;
>	=	&gt;	or	&#62;

Example: To output `<p>` as part of output, you cannot put `<p>` in your code  
You must instead use:

`&lt;p&gt;` → `<p>`

## Special Characters

If you want to insert several spaces, you cannot just press the space bar several times (it will insert space in the code, but remember that the browser will ignore extra spaces. To do this you must use the code

**&nbsp;**

This stands for non-breaking space. Putting several of these in a row will give you several spaces in the output on the page

Example: `&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;` would give you 5 spaces on the page in the browser

## More Special Characters

Some common special characters

Quotation Mark	<b>&amp;quot;</b> ;
Copyright Symbol	<b>&amp;copy;</b>
Ampersand	<b>&amp;amp;</b> ;
Less Than Symbol	<b>&amp;lt;</b>
Greater Than Symbol	<b>&amp;gt;</b>
Empty Space	<b>&amp;nbsp;</b> ;

For more: [http://www.w3schools.com/html/html\\_symbols.asp](http://www.w3schools.com/html/html_symbols.asp)

## Going Bigger

Thinking back to our pyramid, paragraphs (and related elements) are usually contained by larger elements

Primary among these is the **<div>** element

**<div>** is the 'workhorse' of HTML document structure

There are others - derivatives of **<div>** - that we'll talk about later

## <div>

```
<body>
  <div>
    <p>
      divs are often used to group
      other elements, like, paragraphs,
      images, tables, lists, etc.
    </p>
    <table>
      <tr><td>This is a </td><td>table</td></tr>
      <tr><td>We'll talk about</td><td>tables later</td></tr>
    </table>
  </div>
</body>
```

divs are often used to group other elements, like, paragraphs, images, tables, lists, etc.

This is a	table
We'll talk about	tables later

## Lists

## Lists

We love our lists!

Shopping lists, to-do lists, ingredients lists, pros/cons - many data types are best presented in this format

Lists have been part of HTML since Day 1

From a design perspective, it's better to use a list, when possible, instead of a long paragraph

Remember: Users typically **scan** web pages for information, rather than reading start to finish

## Formatting Text using Lists

There are 3 types of lists:

Ordered (numbered)

Unordered (bulleted)

Definition (terms & definitions)

These two are what you think of as normal lists. They work similar to lists that you would create in a Word document

This list is somewhat different...mainly because it doesn't really look like a "list". It is mainly used to achieve indenting of one line underneath another line since there is no tag that does that

## Formatting Text using Lists

Individual items in a list are inserted using a **List Item** tag.

```
<li>...</li>
```

Every list consists of one or more list items

A single-item list wouldn't be much use, though

List items are nested inside the outer list element

```
<li>Lions</li>
<li>Tigers</li>
<li>Bears</li>
<li>Oh my!</li>
```

```
<ol>
```

### Ordered List

Automatically inserts a number before each item (YOU DO NOT TYPE IT YOURSELF)

Indented

Each item must be contained in a List Item tag

## <ol>

```
<ol>
  <li>Lions</li>
  <li>Tigers</li>
  <li>Bears</li>
  <li>Oh my!</li>
</ol>
```



1. Lions
2. Tigers
3. Bears
4. Oh my!

## <ol>

Attributes:

type = "1 or A or a or I or i" (e.g., **<ol type="A">**)

1 – numbers

A – uppercase letters

a – lowercase letters

I – uppercase roman numerals (this is a capital i)

i – lowercase roman numerals



## <ol>

Attributes:

start="n" <e.g., **<ol start="5">**

n is some number representing the number or letter to begin numbering the list with

Ex. if start="3" was used, it would start numbering at 3, or C, or c, or iii or III depending on the type that was chosen

## <ol>

```
<ol type="I" start="3">  
  <li>Lions</li>  
  <li>Tigers</li>  
  <li>Bears</li>  
  <li>Oh my!</li>  
</ol>
```



```
III. Lions  
IV. Tigers  
V. Bears  
VI. Oh my!
```

## <ul>

Often, the order of the list items doesn't matter

In this case, we usually use a bulleted list

In HTML-speak, we call this an Unordered List

Unordered lists are defined with the `<ul>` element

## <ul>

```
<ul>  
  <li>JavaScript</li>  
  <li>HTML</li>  
  <li>CSS</li>  
  <li>PHP</li>  
</ul>
```



- JavaScript
- HTML
- CSS
- PHP

## Formatting Text using Lists

Attribute:

type="disc or circle or square" (e.g., `<ul type="circle">`)

Specifies the bullet type

Disc is usually the default (meaning if you don't specify a type, it will automatically use disc)

`<ul>`

```
<ul type="circle">
  <li>JavaScript</li>
  <li>HTML</li>
  <li>CSS</li>
  <li>PHP</li>
</ul>
```



- JavaScript
- HTML
- CSS
- PHP

## <dl>

Definition lists are a little different - they have two 'list item' elements

Dictionary Term

```
<dt>...</dt>
```

displayed on left margin

Dictionary Definition

```
<dd>...</dd>
```

indented from left

## <dl>

Used for lists of words with blocks of descriptive text

But most commonly used when you want to indent a line of text underneath another line (because there is no tag that will simply indent or tab over)

Ex.

Contact Us


(423) 123-4567

&lt;dl&gt;

```

<dl>
  <dt>HTML</dt>
  <dd>&quot;The language of the web&quot;</dd>
  <dt>CSS</dt>
  <dd>Presentation & styling</dd>
  <dt>JavaScript</dt>
  <dd>&quot;The programming language of the web&quot;</dd>
</dl>

```



```

HTML
  "The language of the web"
CSS
  Presentation & styling
JavaScript
  "The programming language of the web"

```

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&lt;dl&gt;

If you have synonyms - multiple <dt>s

If you have multiple definitions – multiple <dd>s

```

<dl>
  <dt>Glitter</dt>
  <dd>1. to reflect light with a brilliant,
    sparkling luster</dd>
  <dd>2. to make a brilliant show.</dd>
  <dt>Wither,</dt>
  <dt>Decline</dt>
  <dd>1. to shrivel; fade; decay</dd>
  <dd>2. to lose the freshness of youth,
    as from age</dd>
</dl>

```

Glitter

1. to reflect light with a brilliant, sparkling luster
2. to make a brilliant show.

Wither,  
Decline

1. to shrivel; fade; decay
2. to lose the freshness of youth, as from age

Note that, in this case, if you want numbers, you do have to add them

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## Nesting Lists

```
<ol>
  <li>HTML
    <ul>
      <li>Structure</li>
      <li>Content</li>
      <li>Markup</li>
    </ul>
  </li>
  <li>CSS</li>
  <li>JavaScript</li>
</ol>
```



1. HTML
  - Structure
  - Content
  - Markup
2. CSS
3. JavaScript

## HTML5 Document Structure - Revisited

```
<!DOCTYPE html>
<html lang="en">
  <head>
    META INFO GOES HERE
  </head>
  <body>
    CONTENT GOES HERE
  </body>
</html>
```

## HTML Elements: Block vs Inline

### Block (normal [W3C]) level elements

Are those elements that start (and end) with a new line when displayed in the browser

Creates large blocks of content

Interrupt the flow

### Inline (void [W3C]) elements

Are those elements that are normally displayed without starting a new line

Used to define text or data within the document

Do not interrupt the flow

## HTML Elements: Container vs Standalone

### Container (normal) elements

Have a start and end tag

'Contain' content, turning on formatting, then turning it off

### Standalone (void) elements

No end tag

All the data needed by the browser is contained in a single tag

## Official List of Tags

<http://www.w3schools.com/tags/default.asp>

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## The Web Design Lifecycle

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## Motivation

Successful web sites don't just happen

A website can make - or break! - an organization

Careful planning and design are required to create a site that meets both clients' and users' needs

Some 'best practices' have been developed over the years to help

Remember, while we're working small this semester, the knowledge and skills you'll learn in this class are applicable to enterprise-grade websites

## Rationale

Website design, like software design, is driven by certain realities

- ✓ A web site should be **useful** and **usable**
- ✓ A web site should meet the needs of the client
- ✓ A web site is not static
- ✓ Changes in target population
- ✓ Changes in content
- ✓ Changes in technology

## Rationale

Any commercial project should be divided into a series of steps

Each step involves a set of inputs and a set of expected outputs/outcomes

This methodology

- ✓ Generates accurate customer requirements
- ✓ Provides a reasonably accurate timeline for project completion
- ✓ Helps identify necessary technology and manpower for the project
- ✓ Identifies necessary and relevant testing that the project will require
- ✓ Creates a budget for the project (kind of important)

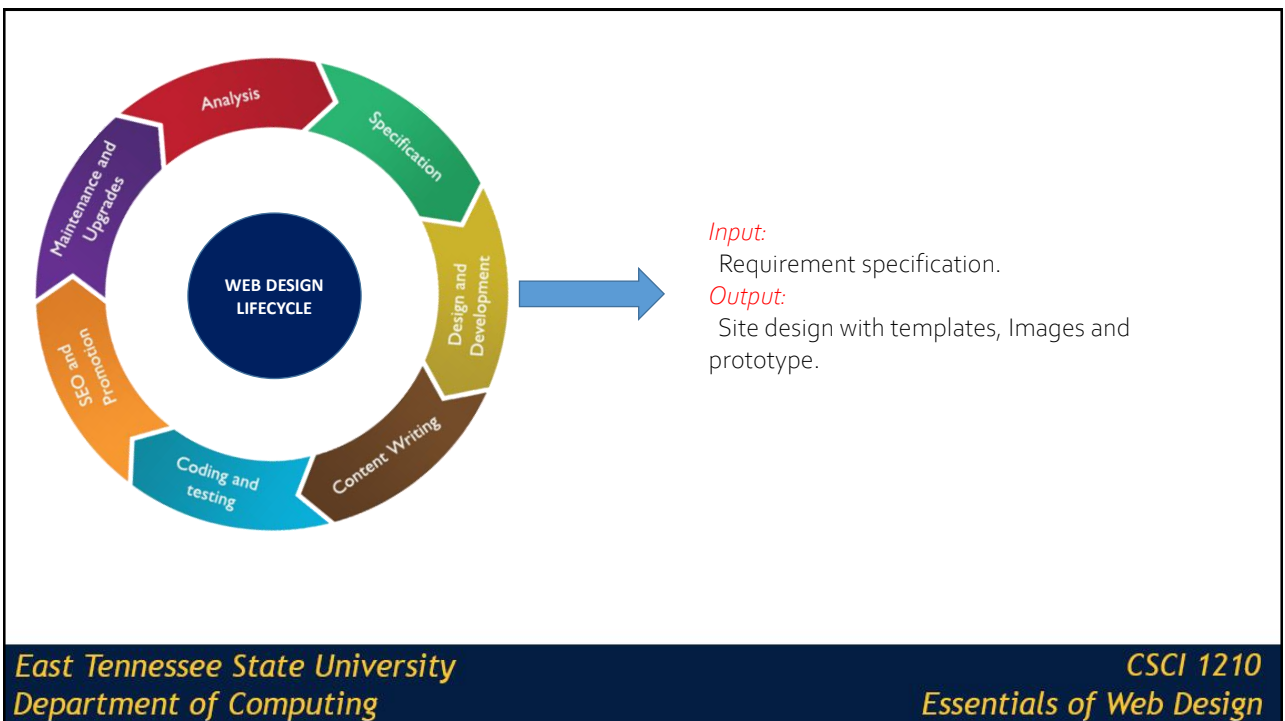
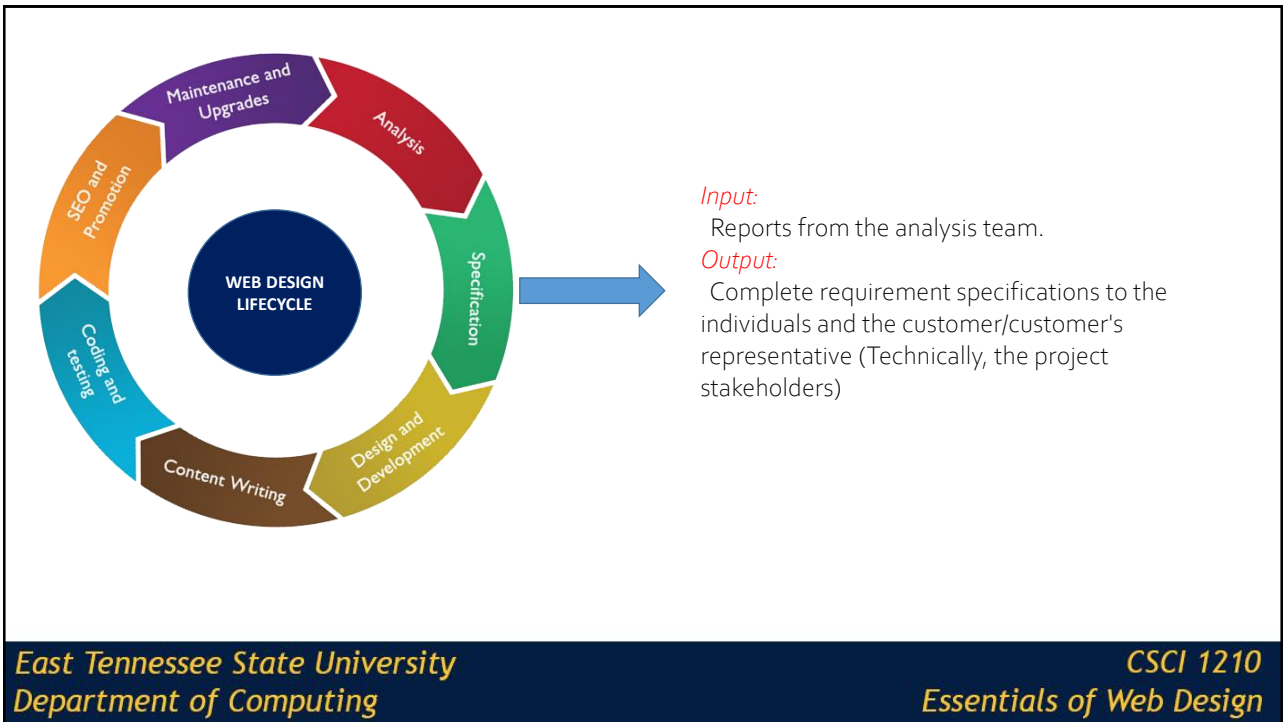


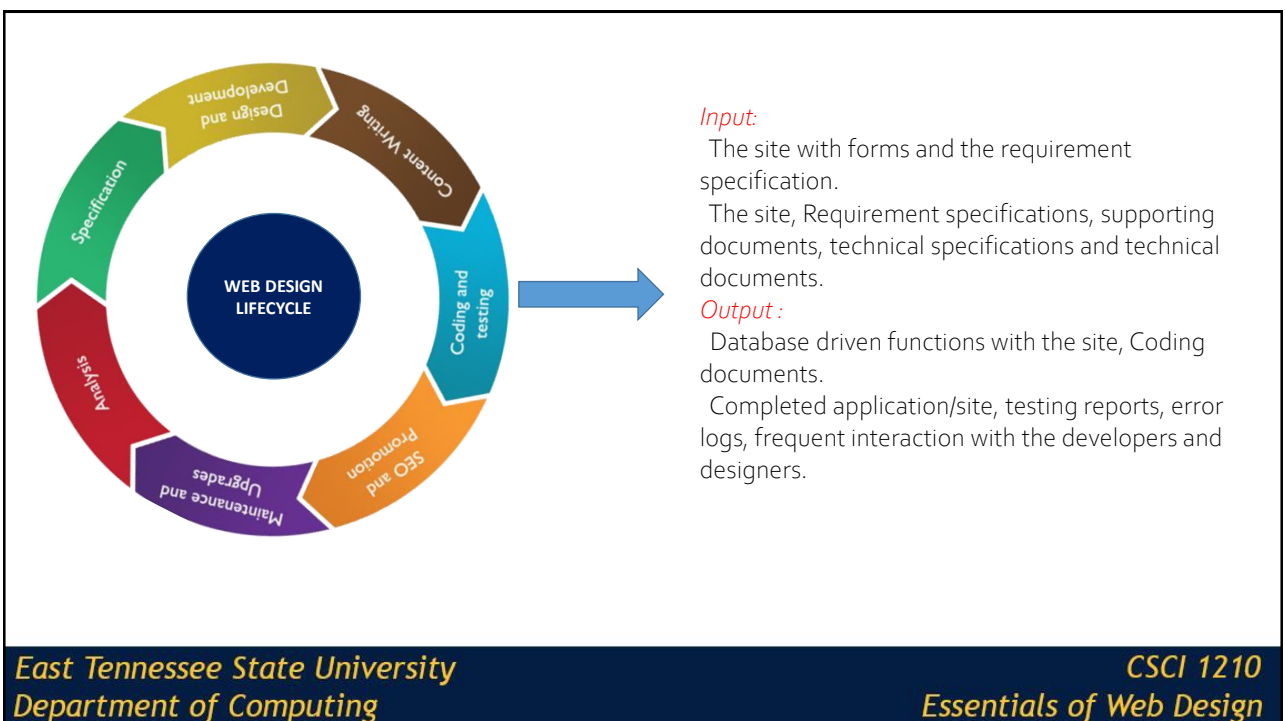
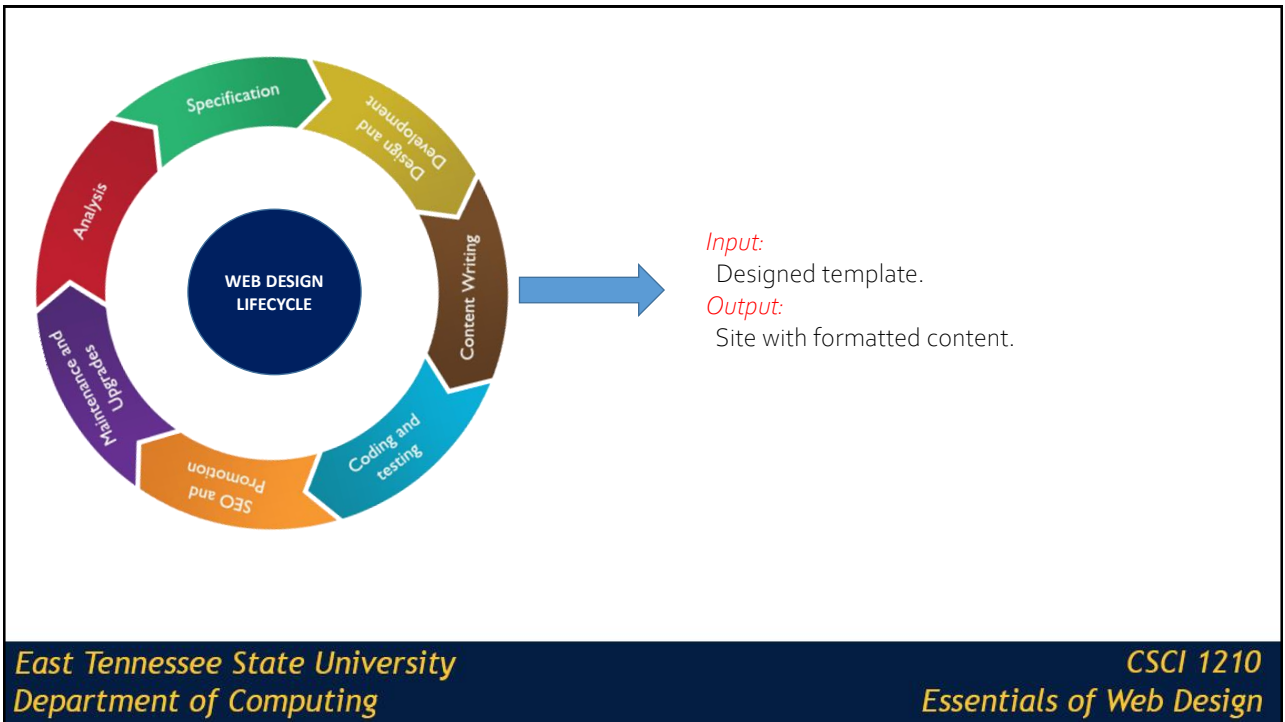
### *Input:*

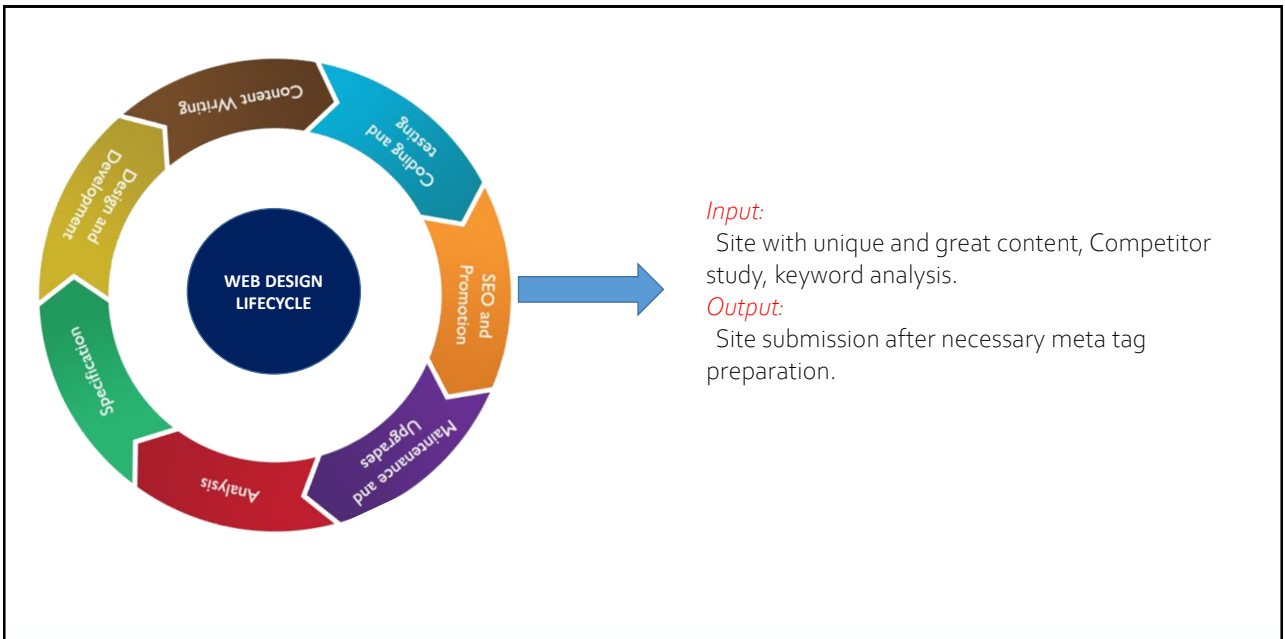
Kick off interview with client, initial mails and supporting docs by the client, discussion notes, Online chat transcripts, recorded telephone conversations, and Model sites/applications

### *Output:*

Work plan,  
Estimating cost  
Team requirements (No of developers, designers, QA, DBA etc)  
Hardware-software requirements  
Supporting documents and  
Final client approval to go ahead with the project.

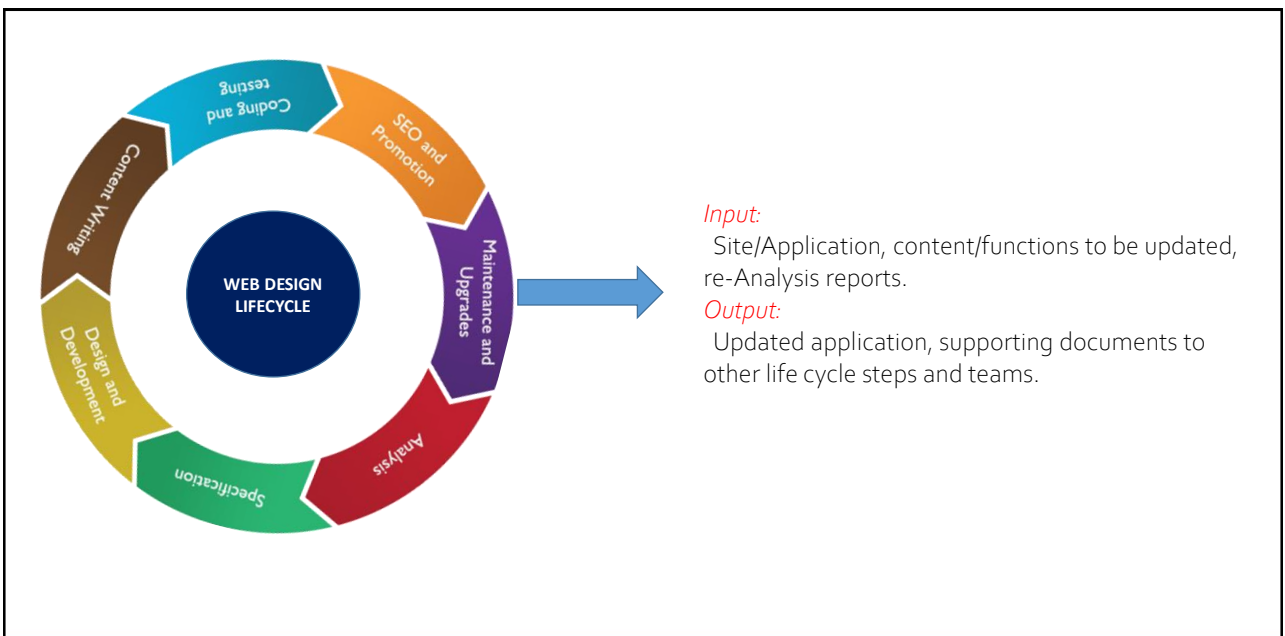






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# Site Mission

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## Getting started right

Every well designed web site has

-  A well defined mission
-  A set of targeted site users

Designers cannot intelligently think about design until above is known

Designers generally don't determine above, but can assist in determination

Designers should question client for needed info

Often necessary to educate client about best way to proceed and why

If no understanding and agreement initially, project will fail or require a lot of later rework

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## Site Mission Statement

What is the owner of the site wanting the web site to accomplish? Why is it being created?

Synthesize into a short paragraph--Site Mission Statement

[SuperDog.com](#) is the online home of the Super Dog comic character. It is a place for fun-loving people to share in the ongoing adventures of the Super Dog character, comment on events happening in the Super Dog universe, and buy Super Dog merchandise

[BuyANewHouse.com](#) is place for people buying and selling a house without a realtor to meet, exchange information, and negotiate a purchase

## Formulating a Mission Statement

Keep in mind:

Many companies have established *company* mission statements

What we are seeking is **different** from that, although related

We want to know the mission of this *site* not the overall company

Once a general goal statement for site is established, mission statement can go on to discuss key components to be a part of the site

## In Class Exercise

Assume you were in charge of the ETSU Web Site. Work with a neighbor to create a mission statement for your site

Begin by putting together a **2 sentence** (or so) general goal statement, and the follow that up with at least **4 site components**

## Importance of Site Mission Statement

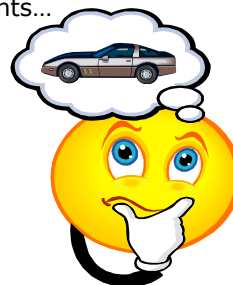
Site Mission Statement defines the target we're trying to hit as a designer

Site created must **fit** the mission

Designer and customer must have unified understanding of what is to be accomplished



He wants...





## Importance of Site Mission Statement

Helps protect you from 'mission-creep,' also known as 'requirements creep'

"I know we agreed on this,  
but wouldn't it be nice if it  
also..."

## Importance of Site Mission Statement

Again, we're looking at commercial website design

As with any other endeavor, it's important to C-Y-A

"If it ain't wrote down, it didn't happen"  
~ Every cop, lawyer, and judge who ever lived

## Summary

### Structural tags

`<p></p>`

`<br />`

`<hr />`

`<h $n$ ></h $n$ >` ( $n = 1, 2, 3, 4, 5, \text{ or } 6$ )

### Format tags

`<strong></strong>`

`<em></em>`

`<blockquote></blockquote>`

## Summary

### Nesting tags

### Special characters

### Lists

Ordered

Unordered

Definition

## Summary

The Web Design Lifecycle represents a methodology of best practice steps to guide developers through the creation and maintenance of a web site

The WDLC is an iterative (cyclic) process that helps ensure success of the project



## Lecture Quiz

1. What do we call `<h1>Welcome!</h1>`?
- A. Head
  - B. Header
  - C. Heading
  - D. Headstone

## Lecture Quiz

2. Display-wise, what is the difference between `<b>` and `<strong>`?
- A. `<b>` is a block level element; `<strong>` is not
  - B. `<b>` is an inline element; `<strong>` is not
  - C. `<b>` displays text as bold; `<strong>` is more bold
  - D. None

## Lecture Quiz

3. Which block level element do we use to display long quotations?

- A. `<quot>`
- B. `<blockquote>`
- C. `<q>`
- D. `<cite>`

## Lecture Quiz

4. Which of the following is a block element?

- A. `<p>`
- B. `<b>`
- C. `<em>`
- D. `<strong>`

## Lecture Quiz

5. What is the main element we use to group paragraphs, images, tables, etc.?

- A. `<table>`
- B. `<span>`
- C. `<content>`
- D. `<div>`

## Lecture Quiz

6. Which list is used when the order of its items doesn't matter?

- A. `<ol>`
- B. `<ul>`
- C. `<dl>`
- D. `<cl>`

## Lecture Quiz

7. (True/False) A site mission statement is just a starting point...extra functions/features are typically added 'on the fly'

- A. True
- B. False

## Lecture Quiz

8. 'Design Methodology' means

- A. A website is nothing more than a couple of folks writing a bunch of code
- B. Creating a successful site is a fairly trivial endeavor
- C. A website should be built following a defined series of steps that have proven to be successful in the past
- D. A website is formulaic and doesn't need input from clients or customers

## Lecture Quiz

9. (True/False) Most websites are static and rarely change

- A. True
- B. False

## Lecture Quiz

9. (True/False) Most websites are static and rarely change

- A. True
- B. False



## Lecture Quiz

10. What are some of the changes that can occur to a website

- A. Target population
- B. Content
- C. Technology
- D. All of the above

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