

I58258 Web Development

Introduction to HTML

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(AKLI, DISD and MTUI)

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Learning Objectives

- *After studying this chapter, you should be able to:*
 1. *Describe how web applications differ from Windows form applications*
 2. *Describe the components of a web application*
 3. *Describe the terms HTTP request and HTTP response*
 4. *Explain the differences between static and dynamic web pages, Web Application and Web Site projects*
 5. *Describe the structure of an HTML document*
 6. *Explain the difference between block and inline elements, and semantic and non-semantic elements*
 7. *Build static web pages using appropriate HTML elements*
 8. *Apply simple inline CSS styling*

(End: Section 1 - Topic Pre-amble)

Section 2: Introduction - Windows Form Applications vs. Web Applications

Windows form applications

- Installed and run on client computers with Windows operating system
- Must be installed on the computer from which the application is accessed

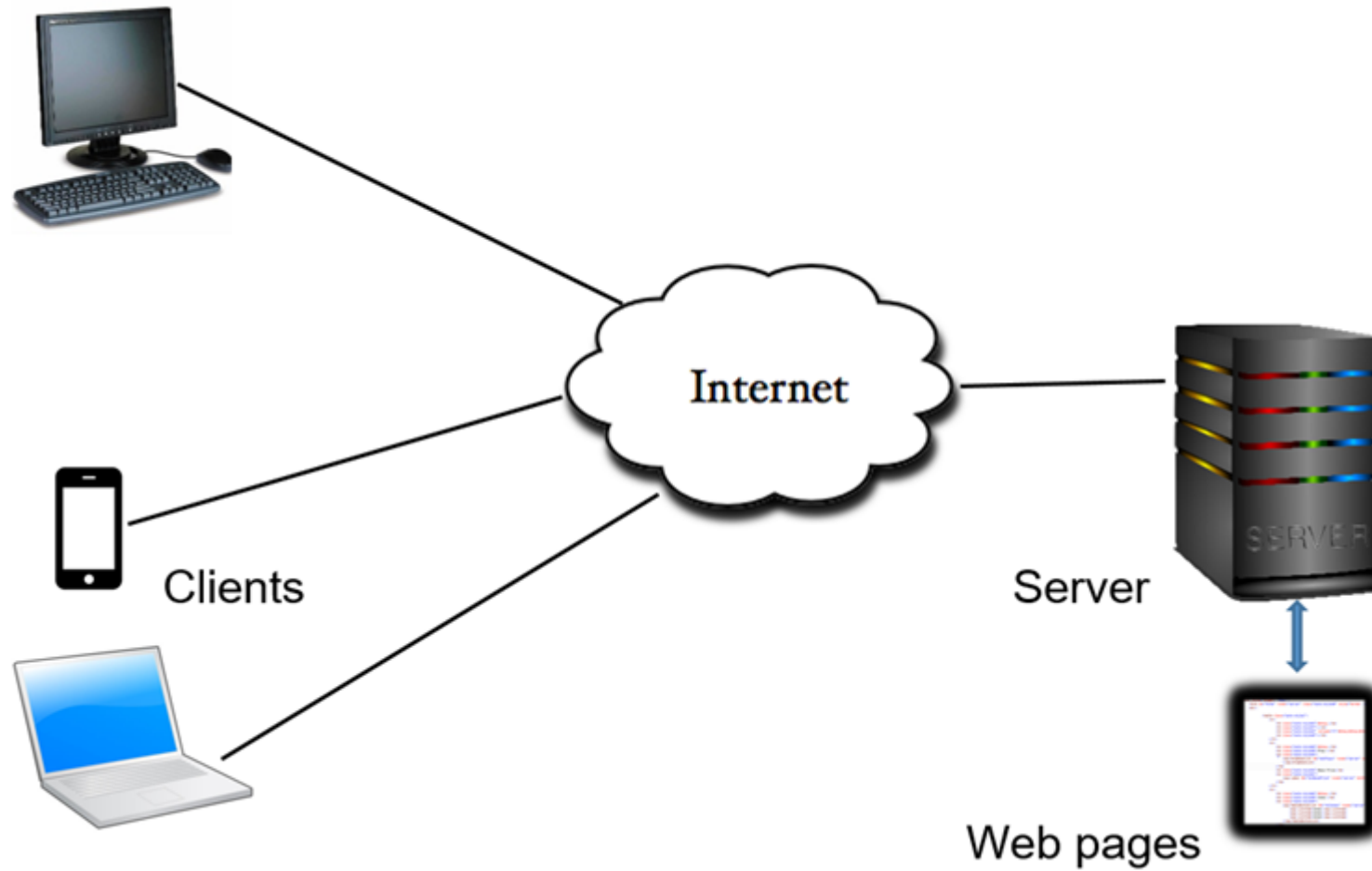
Web applications

- Implemented on a server(s) and accessed through a browser from clients
- **Components:** clients, Internet and a web server
- Clients don't have to be Windows machines

Web server

- Stores and maintains web pages and delivers them to clients

Components of a Web Application



Components of a URL

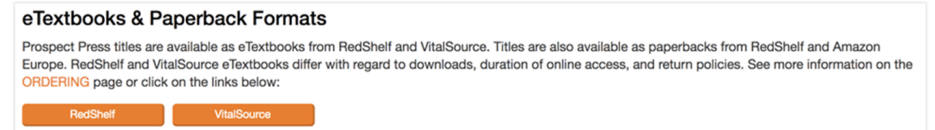
Component	Description
Example	http://www.prospectpressvt.com/ordering
http	The web server protocol used by the client and the server to communicate with each other. Other types of protocols include: <ul style="list-style-type: none">▪ SMTP — Email server protocol▪ FTP — File transfer protocol
www	<i>The default host name.</i> Example, yahoo.com is the same as www.yahoo.com and finance.yahoo.com has the host name finance, which finds the domain yahoo.com on the host finance.
prospectpressvt.com	The domain
.com	The top level domain

Static Web Pages

- A static web page remains the same each time it is displayed, unless it is manually altered.
- For example, a web page that displays product prices that are “hard-coded”
- The user can’t modify or interact with a static page.
- A static web page is stored on the server as a plain text file written using the HTML (*Hypertext Markup Language*) markup that describes the contents of the web page.
- The example (1) on the left of this slide presents code for a part of a static Web page.
- Example (2) on the left presents a screenshot of the rendered example code in (1).

```
<h2>eTextbooks & Paperback Formats</h2>
<p>Prospect Press titles are available as eTextbooks from RedShelf and VitalSource.
These are also available as paperbacks from RedShelf and Amazon Europe. RedShelf and
VitalSource eTextbooks differ with regard to downloads, duration of online access,
and return policies. See more information on the <a href="/ordering/direct-student-
orders/" target="_blank" rel="noopener noreferrer">ORDERING</a> page or click on the
links below:</p>
<div class="button-section">
  <a class="cta-small" href="http://redshelf.com" target="_blank"
    rel="noopener noreferrer">RedShelf</a>
  <a class="cta-small" href="https://www.vitalsource.com/" target="_blank"
    rel="noopener noreferrer">VitalSource</a>
</div>
```

1. Example code snippet for static Web page.



2. Screenshot of the example static Web page

Dynamic Web Pages

- A dynamic web page typically is created on the fly when the page is requested.
 - *For example, a web page that displays product prices that are read from a file/database*
- Segments of the page are generated dynamically using scripts embedded in HTML or stored in a separate file(s).
- The scripts may do tasks like:
 - *looking up information from a database*
 - *displaying dynamic data like inventory levels*
- Dynamic pages may also accept user input and process them.

The process of displaying a Static Page

- The browser opens the connection to the server.
- The browser sends a request (HTTP request) to the server.
- The server retrieves the file that contains the HTML for the page.
- The server sends a response (HTTP response), which includes the file, to the browser.
- When the browser receives the response, it closes the connection.
- The browser displays the web page as specified by the HTML code and formatted using tools like CSS (Cascading Style Sheets).
- The combination of request and response is called a transaction.

Ingredients
1/2 cup quick oats
Quick oats have almost the same nutrition as old fashioned and steel cut oats; but take less time to cook
1/2 cup each of almond and vanilla soy milk:
You may substitute coconut milk or regular milk for soy milk
2 Tbsp chopped walnuts
1/2 cup each chopped banana and blueberries
A pinch each of cardamom and ginger powder
1/4 tsp cinnamon powder

Not sure what quick oats are? Quick oats are oat grains that are cut to smaller pieces and then steamed and rolled.

Directions

Mix all ingredients in a cooking pot, **add one cup of water**, bring to a boil and simmer for a couple of minutes.
Important: Make sure you stir the mixture **frequently** while simmering.

Nutritional value

Nutritional value of 1/2 cup of dry quick oats

Nutrition	Amount
Calories	150 cal (kcal)
Carbohydrates	27 g
Protein	5 g
Fat	3 g
Dietary fiber	4 g

You may find the nutritional value of almost any food from sources like [Nutrition Value](#) and [What's In Food](#)

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Oatmeal recipe Web page rendered and displayed in a browser

Approaches to Developing Web Applications

Web Forms approach

- Uses a design surface and drag-and-drop controls
- Easier to develop compared to the MVC approach
- Less control over generated HTML
- May contain HTML, CSS and scripts

MVC (Model-View-Controller)

- Divides an application into three different components:
 - **Model:** *The business entity*
 - **View:** *Data as presented in the user interface*
 - **Controller:** *Maintains the model and the view*
- Easier to maintain and gives control over HTML markup

_(End: Section I)

Section 2: HTML

- This section is an introduction to the Hyper-Text Markup Language (HTML), the main subject of this topic
- You will learn almost all the essential elements of the HTML for creating Web pages.
- We will focus on the basics of the most recent version: HTML5
- At a later time in the course, you will learn some of the advanced features of HTML5

Structure of the HTML Document

- **Elements:** HTML is made up of elements.

- **Examples:**

- **Element:** `<title>Oatmeal Recipe</title>`
- **Opening tag:** `<title>`
 - The opening tag consists of the name of the element and optional attributes, enclosed in a pair of angle brackets.
- **Closing tag:** `</title>`
- **Content:** `"Ice Cream Cost"`

- **DOCTYPE declaration:** `<!DOCTYPE html>`

- A special tag that tells the browser what version of HTML is used—`html` means `html5`

- **`<html>` element:** The entire HTML code is wrapped in the `html` element:

```
<!--  
  Example structure of an HTML document  
-->  
  
<!DOCTYPE html>  
<html>  
  <head>  
    <meta attributes>  
    <title>Title of the page</title>  
  </head>  
  <body>  
    (Contents of the page)  
  </body>  
</html>
```

```
<html>  
  (head element)  
  (body element)  
</html>
```

Head and Body Elements

- Head element

- *Contains information about the page that is not displayed on the page*
- *Head must contain the `<title>` element.*
- *May contain CSS styles and `<meta>` elements:*

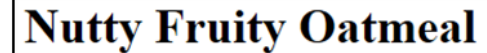
```
<head>
  <meta charset="utf-8" />
  <meta name="description" content="Oatmeal recipe">
  <meta name="keywords" content="oatmeal, recipe, breakfast">
  <title>Oatmeal Recipe</title>
</head>
```

- **Meta elements:** Information about the document, like key words, for search engines.
- Body element:
 - *The body contains everything you see on the web page.*

HTML Elements: The Structure

■ Examples:

- *Heading (<h1>) element*
- *Markup: <h1>Nutty Fruity Oatmeal</h1>*
- *Output: See the button on the left*



■ Attributes of an element

- *An opening tag of an element may contain one or more attributes that provide information about the element.*
- **Example:** Anchor element with **href** attribute that specifies the URL.
`Prospect Press`
- *Output: See the button on the left*



■ Elements without an end tag:

- *The image element*

```

```

- **src:** *specifies the filename /URL of the image*
- **alt:** *describes what the image is*

Line breaks and white spaces

- HTML ignores any line breaks and extra white spaces in the mark-up.

```
<body>
  <h1>Nutty & Fruit Oatmeal</h1>
  
  A healthy breakfast is a healthy diet. There are many Websites that describe the benefits of oatmeal, including:
  <a href="https://www.webmd.com/diet/oatmeal-benefits">WebMD</a>
</body>
```

The above code renders in a Web browser as follows:

Nutty & Fruit Oatmeal



A healthy breakfast
is a healthy diet. There are many Websites

that describe the benefits of oatmeal,
including: [WebMD](#)

Non-breaking Spaces

- Non-breaking space ()

- *Non-breaking space adds an extra space between words or elements when the page is displayed in the browser.*
 - Example: To add three extra spaces, add three characters in sequence, as in .
- *The space added by is non-breaking.*
- *Words or elements separated by will stick together in the same line when the page is displayed, and will not break into a new line.*

```
<a href="https://www.webmd.com/diet/oatmeal-benefits#1"> WebMD </a> &nbsp; &nbsp; &nbsp;  
<a href="https://www.organicfacts.net/oatmeal.html"> Organic facts </a> &nbsp; &nbsp; &nbsp;  
<a href="https://www.hhs.gov/fitness/eat-healthy/dietary-guidelines-for-americans/index.html"> HHS </a>
```

The above code renders in a Web browser as follows:

WebMD Organic facts HHS

Block-level elements

- Display the contents in a new line
- Cause a line break at the end so that any material that follows is displayed in a new line.
- Occupy the entire width of their parent element.
- Examples:
 - *headings* (`<h1>` ... `<h6>`),
 - *paragraph* (`<p>`)
 - *lists* (``, ``, ``, `<dl>`)

Inline elements

- Do not cause their contents to be displayed in a new line.
- Occupy only the space needed by their contents.
- Allow contents of other elements to be in the same line on the left and/or the right.
- Examples:
 - *anchor* (<a>),
 - *image* ()

(End: Section 2)

Section 3: HTML Block Elements: Headings <h1> to <h6>

```
<h1>Nutty & Fruity Oatmeal</h1>  
<h3>Nutty & Fruity Oatmeal</h3>  
<h5>Nutty & Fruity Oatmeal</h5>
```

The above code is rendered in a browser as follows:

**Nutty & Fruity
Oatmeal**

Nutty & Fruity Oatmeal

Nutty & Fruity Oatmeal

Paragraph <p>

- A block of text or elements separated from other blocks by white spaces before and after

HTML Block Elements: Unordered List

```
<ul>
  <li>&frac12; cup quick oats</li>
  <li>&frac12; cup each of almond and vanilla soy milk:</li>
  <li>2 Tbsp chopped walnuts</li>
  <li>&frac12; cup each of chopped banana and blueberries</li>
  <li>A pinch each of cardamom and ginger powder</li>
</ul>
```

- The above code renders in a browser as follows:

- ½ cup quick oats
- ½ cup each of almond and vanilla soy milk:
- 2 Tbsp chopped walnuts
- ½ cup each of chopped banana and blueberries
- A pinch each of cardamom and ginger powder

Block Elements: Ordered List

```
<ol>
  <li> &frac12; cup quick oats </li>
  <li> &frac12; cup each of almond and vanilla soy milk </li>
  <li> 2 Tbsp chopped walnuts </li>
</ol>
```

- The code to the left is rendered in a browser as follows:

1. 1/2 cup quick oats
2. 1/2 cup each of almond and vanilla soy milk
3. 2 Tbsp chopped walnuts

Block Elements: Description List <dl>

```
<dl>
  <dt> &frac12; cup quick oats </dt>
  <dd>
    Quick oats have almost the same nutrition as old fashioned and steel cut oats
    but take less time to cook
  </dd>
  <dt> &frac12; cup each of almond and vanilla soy milk: </dt>
  <dd> You may substitute coconut milk or regular milk for soy milk </dd>
  <dt> 2 Tbsp chopped walnuts </dt>
</dl>
```

The above code is rendered in a browser as follows:

½ cup quick oats

Quick oats have almost the same nutrition as old fashioned and steel cut oats but take less time to cook

½ cup each of almond and vanilla soy milk:

You may substitute coconut milk or regular milk for soy milk

2 Tbsp chopped walnuts

Block Elements: Table (<table>)

- An HTML table is defined by the **<table>** element, and one or more of the following elements:

<caption>	Defines the caption
<tr>	Defines a row
<th>	Defines a column heading (table heading)
<td>	Defines a column

- Additional elements include: <thead>, <tfoot>, and <tbody> — specify the **header**, **body** and **footer** of a **table**.

Block Elements: Table (<table>) - Example

- The following is example code for the Web or HTML table:

```
<table border="1">
  <caption>Nutritional Value of  $\frac{1}{2}$ 
cup of dry quick oats</caption>
  <tr>
    <th>Nutrition</th>
    <th>Amount</th>
  </tr>
  <tr>
    <td>Calories</td>
    <td>150 cal (kcal)</td>
  </tr>
  <tr>
    <td>Carbohydrates</td>
    <td>27 g</td>
  </tr>
  <tr>
    <td>Protein</td>
    <td>5 g</td>
  </tr>
</table>
```

The code to the left of this slide renders in a browser as follows:

*Nutritional Value of $\frac{1}{2}$ cup of
dry quick oats*

Nutrition	Amount
Calories	150 cal (kcal)
Carbohydrates	27 g
Protein	5 g

Division (<div>) element

- A generic (non-semantic) block element that serves as a container for one or more elements.
- A common use of <div> is to specify CSS styles for the contents of multiple elements to avoid repeating the styles within each element.
- Example: *Use the style attribute to apply a common color and font size for a paragraph and an unordered list that are contained within it.*

```
<div style="color:darkblue;font-size:14pt;">
  <p>Among the many benefits of oatmeal are: </p>
  <ul>
    <li>excellent source of fibre that helps to rreduce cholesterol</li>
    <li>loaded with nutrients including vitamins, minerals, and antioxidants</li>
    <li>helps with weight reduction</li>
    <li>reduce constipation</li>
  </ul>
</div>
```

- The corresponding output:

Among the many benefits of oatmeal are:

- excellent source of fibre that helps to rreduce cholesterol

- loaded with nutrients including vitamins, minerals, and antioxidants
 - helps with weight reduction
 - reduce constipation
-

(End: Section 3)

Section 4: In-line Elements

- In-line elements do not cause their contents to be displayed in a new line.
- They allow contents of other elements to be in the same line on the left and/or the right.
- The `` element:
 - *An online semantic element*
 - *Used where the text conveys strong emphasis/importance.*
 - *Relatively new with HTML 5*
 - *By default, the strong element, displays the text in bold.*
 - *Use `` where you want to hear the text in strong voice, if it is read.*

Span () element

- A generic (non-semantic) inline element that serves as a container for a segment of text
- Commonly used to apply CSS style to a word or group of words using its style attribute
- Examples:

1. Apply bold to a segment of text:

- `<p>Among the many benefits of oatmeal are: </p>`
- The corresponding output:

Among the many **benefits of oatmeal**
are:

2. Specify the font size for a segment of text

- `Nutty & Fruity Oatmeal`
- The corresponding output:

Nutty & Fruity
Oatmeal

Strong () element - Example

- Example:

```
<strong>Important:</strong> Make sure you stir the mixture  
<strong>frequently</strong> while simmering.
```

- The corresponding output:

Important: Make sure you stir the mixture
frequently while simmering.

- Use CSS if you want to apply **bold** without conveying any importance.

Inline Elements: Emphasis ()

- Emphasis is an inline semantic element
- Conveys gentle emphasis of the text to humans and machines.
- Typically, displays the text in italics.
- Use where you want to emphasize pronunciation if the text is spoken

Inline Elements: Emphasis () - Example

- Example:

```
I would <em>really</em> love to get a job as a web developer
```

- The corresponding output:

I would *really* love to get a job as a web developer

- Use of implies that the reader would emphasize pronunciation of the word really, if the text is read.
- Use CSS if you want to apply italics without conveying any emphasis.
- Italics has been typically used for:
 - *new terms when they are introduced the first time,*
 - *technical terms, titles of books and articles, foreign words, etc*

Break (
) Element

- The break element inserts a line break
- Intended for line breaks that are part of the content as in addresses and poems
- should not be used for other structures like lists
- The break element is a void element – it doesn't have an end tag
- coded as a self-closing tag by adding a forward slash as in

Break (
) Element - Example

- Example: HTML and output

```
Prospect Press <br />  
47 Prospect Way <br />  
Palmerston North 4412 <br />  
New Zealand
```

Prospect Press
47 Prospect Way
Palmerston North 4412
New Zealand

(End: Section 4)

Section 5: CSS (*Cascade Styling Sheets*) and *Semantic Elements*

- CSS stores the rules that specify the look and feel of a web page in a separate style sheet(s)

Three ways to apply CSS

- use the style attribute of HTML elements (in-line styling)
- specify styles in the head section of the HTML document
- use an external style sheet, a separate text file with extension .css

Inline styling

- Examples:

```
<p style="color:darkblue;font-size:14px">  
<ol type="1" style="color:brown; font-size:20px">  

```

Semantic vs Non-semantic (Generic) Elements

Semantic elements

- Convey information about their contents to browsers, screen readers and search engines.
- Example: heading (`<h1> .. <h6>`), paragraph (`<p>`), lists (``)
- A search engine understands the relative importance of the headings `<h1>`, `<h2>`, etc., and the structure of the contents in a table element.
- A semantic element provides meaning to its content.
- Information conveyed in a semantic element could help search engine optimization (SEO).
Screen readers could use the information to enhance the listener experience.

Non-semantic (generic) elements

- Non-semantic elements, do not convey the importance of their contents or what they are.
That is, they don't convey any meaning.
- It is recommended that you minimize their use.
- Examples: `` and `<div>`

Additional Semantic Elements: Header (<header>)

- Typically contains the heading and introductory content:
 - *logo, table of content, search form, navigational links*
- Information in the page header may repeat on each page
- A semantic element - doesn't change the appearance of its contents
- The sections within a page also may have section headers

Additional Semantic Elements: Header (<header>) - Example

- Example code:

[illegible]

P&I Recipes



Oatmeal Pancakes Dinner Snacks

Footer (<footer>)

- Footer may contain information on
 - *copyright*
 - *the author*
 - *additional links that are not appropriate in the header*
- Footer is a semantic element.
- Example:

```
<footer>
  &copy; 2022 P&I Traders. All rights reserved.
  <address>
    Contacts: J Iversen, iversen@uwosh.edu; G Philip, philip@uwosh.edu
  </address>
</footer>
```


Main (<main>)

- A semantic element marks content that is unique to the page — doesn't repeat across pages
- Represents content related to the central topic of the page
- Excludes the site header and the footer
- A page must not have more than one main element

Main (<main>) - Example

```
<header>  
  <h1>P&I Recipes</h1>  
    
  <a href="oatmeal-recipe.html">Oatmeal</a>   <br><br>  
  <a href="pancakes.html">Pancakes</a>   <br><br>  
  <a href="dinner.html">Dinner</a>   <br><br>  
  <a href="snacks.html">Snacks</a>  
</header>  
<main>  
  <h1>Nutty & Fruit Oatmeal</h1>  
    
  A healthy breakfast is a healthy diet. There are many Websites that describe the benefits of oatmeal, including:  
  <a href="https://www.webmd.com/diet/oatmeal-benefits">WebMD</a>  
  ...  
  ...  
</main>  
<footer>  
  &copy; 2022 P&I Traders. All rights reserved.  
  <address>  
    Contacts: J Iversen, iversen@uwosh.edu; G Philip, philip@uwosh.edu  
  </address>  
</footer>
```

Navigation (<nav>)

- Marks up a group of major navigation links that link to:
 - *other pages or*
 - *parts within the same page*
- A semantic element
 - *conveys to other applications that its contents are navigation links*
- May have multiple nav elements in a page

Navigation (<nav>) - Example

- Example code:

```
<nav>  
  <a href="oatmeal-recipe.html">Oatmeal</a>     
  <a href="pancakes.html">Pancakes</a>     
  <a href="dinner.html">Dinner</a>     
  <a href="snacks.html">Snacks</a>  
</nav>
```

- The above HTML code renders in the browser as follows:

Oatmeal Pancakes Dinner
Snacks

Aside (<aside>)

- This HTML element marks up a block of text that is tangentially related to the content around it;
 - *e.g., comments, excerpts from an article, related links, related content*
- Removal of the aside element should not affect the readability or flow of the surrounding text
- A semantic block-level element
- Typically, indented with a smaller font size
- Aside may also be used at the page (or site) level, where it is relevant to the whole page or site

Aside (<aside>) - Example

- Example code:

```
<p>  
  HTML (Hyper-Text Makeup Langua) is used to display information in Web pages.  
  Essentially, HTML is used to tell the browser how to structure and  
  present content in a Web page.  
<aside style="margin-left:100px;font-size:25px">  
  A language closely related to HTMM1 is XHTML (EXtensible HTML),  
  which is almost identical to HTML with stricter rules to conform  
  to XML (EXtensible Mark-up Laanguage).  
</aside>  
</p>
```

- The above HTML code renders in the browser as follows:

HTML (Hyper-Text Makeup Langua) is used to display information in Web pages. Essentially, HTML is used to tell the browser how to structure and present content in a Web page.

A language closely related to HTML is XHTML (EXtensible HTML), which is almost identical to HTML with stricter

rules to conform to XML (EXtensible
Mark-up Language).

Definition (<dfn>)

- The definition element marks a newly defined term
- The term should be defined within the same element (e.g., the same paragraph) that contains the <dfn> element. That is, the term is defined in the surrounding text.
- Definition element is a semantic inline element

```
<p>
```

```
Elements like headings, paragraph, lists and table, are called <dfn>semantic elements</dfn>,  
which are elements that convey information about their contents to  
browsers, screen readers and search engines.
```

```
</p>
```


Section (<section>)

- A semantic element that groups related contents together
 - e.g., a heading and related elements like paragraphs, tables and lists
- Helps to create machine-generated outlines

```
<section>
  <h2>Ingredients</h2>
  <dl>
    <dt>  $\frac{1}{2}$  cup quick oats </dt>
    <dd>
      Quick oats have almost the same nutrition as old fashioned and steel cut oats
      but take less time to cook
    </dd>
    <dt>  $\frac{1}{2}$  cup each of almond and vanilla soy milk: </dt>
    <dd> You may substitute coconut milk or regular milk for soy milk </dd>
    <dt> 2 Tbsp chopped walnuts </dt>
  </dl>
  <p>
    Note sure what quick oats are?
    <dfn>Quick Oats</dfn> are oat grains that are cut to smaller pieces and then steamed and rolled.
  </p>
</section>
```

- A section may be nested inside another section to mark sub-topics within a topic

Article (<article>)

- The content of the article must make sense by itself even when it is taken out of context.
- Examples: *a magazine article, blog post with associated user comments, Self-contained user feedback, About and Contact Us pages.*
- The <article> element:
 - *makes it easy for other computer programs to understand and share (syndicate) the contents independent of the rest of the document.*
 - *used when a group of contents is to be shared*
 - *An article can be viewed as a distributable section.*

Displaying Reserved Characters

- Reserved characters like “<” and “>” have special meaning in HTML.
- How to display reserved characters on a web page?
- Replace reserved characters with the corresponding HTML character entity
- Examples HTML code:

Reserved character	HTML entity
“<”	<
“>”	>

- *The HTML entity is always terminated by the semi-colon, which is not added in the above table to avoid the HTML entities being interpreted as in column 1 of the table.*

Displaying Reserved Characters - Example

- Example code:

```
<p>  
The break element <br /> is intended to insert  
line breaks that are part of the content, as in an address.  
</p>
```

- The above example HTML code is rendered in a browser as follows:

The break element `
` is intended to insert line breaks that are part of the content, as in an address.

(End: Section 5)

End of Topic Summary

- In this topic, we have covered the following:
 - *The difference between web applications and Windows form applications*
 - *The components of a web application*
 - *The terms HTTP request and HTTP response*
 - *The differences between static and dynamic web pages as well as Web Application and Web Site projects*
 - *The structure of an HTML document*
 - *The difference between block and inline elements as well as between semantic and non-semantic elements*
 - *Building static web pages using appropriate HTML elements*
 - *Simple inline CSS styling*

Review Questions

1. What is the difference between desktop applications and web applications?
2. What is HTTP?.
3. What are two differences between dynamic web pages and static web pages?
4. What is the process of displaying a static web page when you click the link to a page?
5. What is the difference between an application server and a database server?
6. Describe with examples the difference between block elements and inline elements.
7. Describe with examples the difference between semantic and non-semantic (generic) HTML5 elements.

Lab Practical I - The Challenge

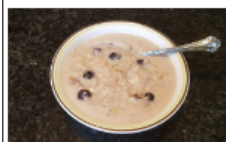
- **Your Task:** Using what you have learned in this topic, create a website consisting of two pages, `oatmeal-recipe.html` and `pancakes.html`, in the next screenshot and upload your website to your Massey University-hosted website.
- **Working files:** [working-files.zip](#)
- Screenshot for **file name**, `oatmeal-recipe.html`, is as follows:

P&I Recipes



[Oatmeal](#) [Pancakes](#) [Dinner](#) [Snacks](#)

Nutty & Fruity Oatmeal



A healthy breakfast is key to a healthy diet. There are many web sites that describe the benefits of oatmeal, including: [WebMD](#) [Organic facts](#) [HHS](#)

Why oatmeal?

Among the many benefits of oatmeal are:

- excellent source of fiber that helps to reduce cholesterol
- loaded with nutrients including vitamins, minerals, and antioxidants
- helps with weight reduction
- reduce constipation

Here is a recipe for a *delicious* oatmeal that increases the high nutritious value of plain oatmeal.

Ingredients

1/2 cup quick oats

Quick oats have almost the same nutrition as old fashioned and steel cut oats; but take less time to cook

1/2 cup each of almond and vanilla soy milk:

You may substitute coconut milk or regular milk for soy milk

2 Tbsp chopped walnuts

1/2 cup each chopped banana and blueberries

A pinch each of cardamom and ginger powder

1/4 tsp cinnamon powder

Not sure what quick oats are? Quick oats are oat grains that are cut to smaller pieces and then steamed and rolled.

Directions

Mix all ingredients in a cooking pot. **add one cup of water**, bring to a boil and simmer for a couple of minutes. **Important:** Make sure you stir the mixture **frequently** while simmering

Nutritional value

Nutritional value of 1/2 cup of
dry quick oats

Nutrition	Amount
Calories	150 cal (kcal)
Carbohydrates	27 g
Protein	5 g
Fat	3 g
Dietary fiber	4 g

You may find the nutritional value of almost any food from sources like [Nutrition Value](#) and [What's In Food](#)

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Lab Practical I - Webpage Screenshot

- Also create the **file name:** pancakes.html whose screenshot is shown below.
- Link to it in the navigation bar for each webpage.

P&I Recipes



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Delicious Pancakes

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