

This presentation is an introduction to HTML, and most of the code is based on versions of HTML prior to HTML5. I have only labelled the slide HTML5 when it contains code which is new in HTML5 and not in earlier versions. Most slides contain code which has been part of the HTML language for many versions, only slides 3-5 contain HTML5 specific information.

This presentation shows how HTML can be used to create a web page containing text, images and hyperlinks which are the basic elements in any web page.

## My Background

- ▶ Developing Software for 40 years
- ▶ Teaching Software Development for 30 years
- ▶ Full time web developer for 2 years

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I have been developing software for over 40 years at University and Further Education Colleges. During that time I have taught the use of a wide variety of languages including Fortran, Basic, Pascal, C++, C# and COBOL. I have also taught the use of Dreamweaver to create web sites for a number of year, but more recently in the last two years I have been working full time on my own web site using HTML5 and CSS3 in Visual Studio 2010

# HyperText Markup Language 5

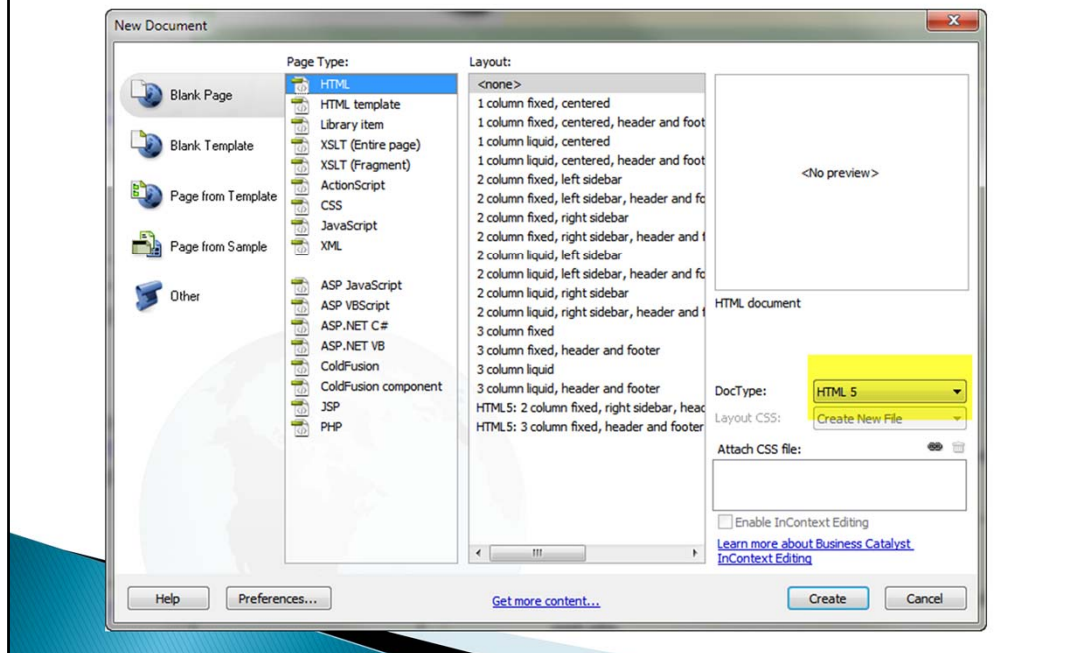
HTML5 is a “Game Changer” new features include:–

- ▶ New HTML tags
- ▶ Graphics Hardware Support
- ▶ Native Multimedia Support
- ▶ Form Data Validation
- ▶ Offline Working
- ▶ Drag & Drop
- ▶ Messaging Support

HTML is a language developed specifically to create web pages, and it essentially takes the textual content of a web page and places tags around various parts of the page to signify (or mark up) that this portion of text is a heading, a paragraph, a table or a list. HTML5 is the latest and greatest version of this language and is only fully supported by the latest browsers. It does however have so many advantages that I believe it is the best version to use for beginners as it is easier to use, and easier to understand.

For web developers it provides very important advantages such as multimedia support, support for graphics cards, data validation in forms and much else to make a web developers job so much easier than before. Unfortunately although Dreamweaver CS5 supports HTML5, the support is not complete yet.

## Create an HTML5 Page



To create a new HTML5 page you must use **File -> New** on the menus, and then select **Blank Page, Layout None** and **DocType: HTML5**

Although it is possible to create a new html page from Dreamweaver's Start screen, unless the correct preferences have been set, that page will not be an HTML5 page. Preferences can be changed by using **Edit -> Preferences -> New Document**.

## HTML5 Code

```
<!DOCTYPE HTML>
<html>
  <head>
    <meta charset="utf-8">
    <title>My 1st Page</title>
  </head>

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

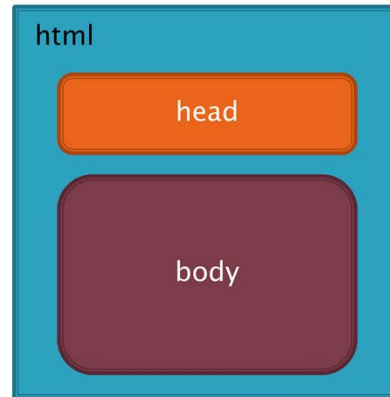
A new blank HTML5 page contains the code shown above. The first DOCTYPE tag declares that this html page is an HTML5 page. Previous versions of HTML had much more complicated DOCTYPE declarations. This is followed by a start <html> tag which is closed at the end of the document. HTML tags mostly come with start and end tags. Inside the HTML tags is the head of the document and the body of the document as illustrated on the next slide.

## HTML Tags

`<html>` start tag  
`</html>` end tag

`<head>` start tag  
`</head>` end tag

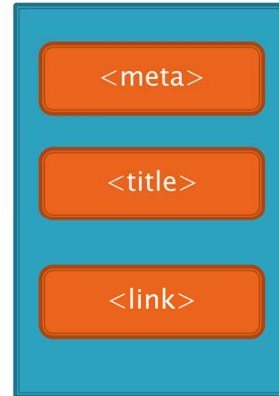
`<body>` start tag  
`</body>` end tag



All web pages start with an `<html>` tag and end with a `</html>` tag. Inside of which there is a head and body region surrounded by start and end tags.

## Head tag

```
<head>
  <meta charset="utf-8">
  <title>
    The Page Title
  </title>
  <link href="mystyles.css">
</head>
```

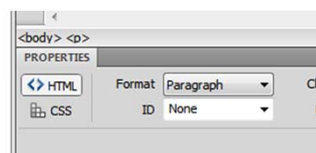


The head region of an HTML page contains the page title. All pages should be given a unique title. The title is displayed to the user in the web page tab at the top of the page. There are a number of meta tags, the most important is the one that defines which character set is being used. For European languages utf-8 is a typical choice. For languages with a large number of letters or symbols, other character sets are available.

The head region is also where style sheets can be linked to the html page. The style sheets will then control how the page looks in terms of fonts used, colours, spacing and positioning of elements in the page.

## Body tag

```
<body>  
  <h1>My First Heading</h1>  
  <p>My first paragraph</p>  
  <p>My second paragraph</p>  
</body>
```



### My First Heading

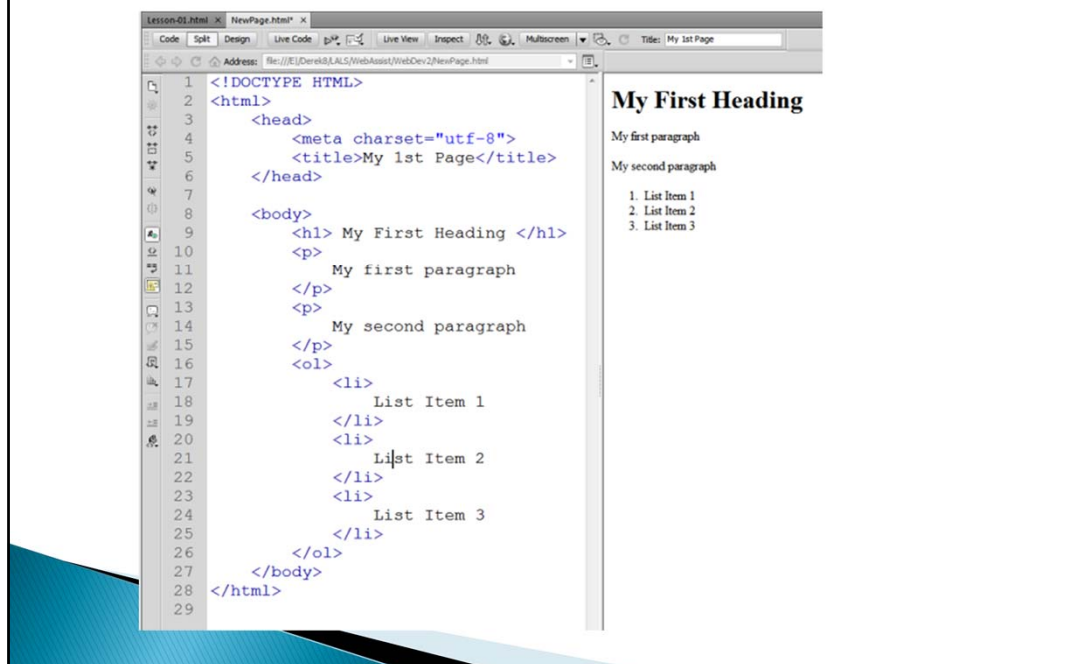
My first paragraph

My second paragraph

The body of an HTML page contains all the page contents that the user will see when the page is displayed. In design view, textual content can just be typed in (only press return or enter, at the end of a paragraph or heading) and then the format of the text changed by selecting it, and then going to the Properties panel at the bottom of the Dreamweaver main window, and selecting **Heading 1** for example. Level 1 headings are surrounded by **<h1>** tags, and paragraphs by **<p>** tags.



## Design View -> Code View



The main Dreamweaver window can be switched between **Design View** which shows roughly how the page will look, and **Code View** which shows the HTML code. The window can also be **Split** to show both at the same time. As you type text into design view, the code is written for you.

# Ordered/Unordered Lists

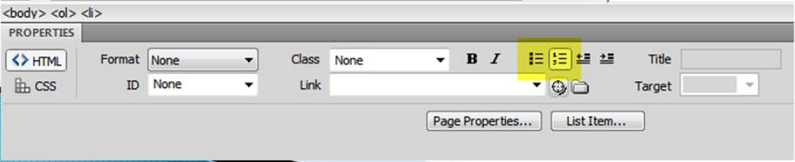
Code View

```
<ol>
  <li>
    List Item 1
  </li>
  <li>
    List Item 2
  </li>
  <li>
    List Item 3
  </li>
</ol>
```

Design View

My second paragraph

1. List Item 1
2. List Item 2
3. List Item 3 |



The screenshot shows a Properties panel for an HTML element. The 'HTML' tab is active, and the 'List' icon (a vertical list of three items) is highlighted in yellow. Other icons for 'None', 'Unordered List', and 'Table' are visible. The panel also shows fields for 'Format', 'Class', 'ID', 'Link', 'Title', and 'Target', along with 'Page Properties...' and 'List Item...' buttons.

Lists can be created most easily in design view. Type in each item in the list and then press enter (return key). Then select all the items in the list and select ordered or unordered list in the **Properties** panel at the bottom of the main window. The code shown will be automatically written for you.

The whole list is inside **<ol>** (Ordered list) or **<ul>** (unordered list) tags. Each item in the list is inside **<li>** tags.

## Menus & HyperLinks

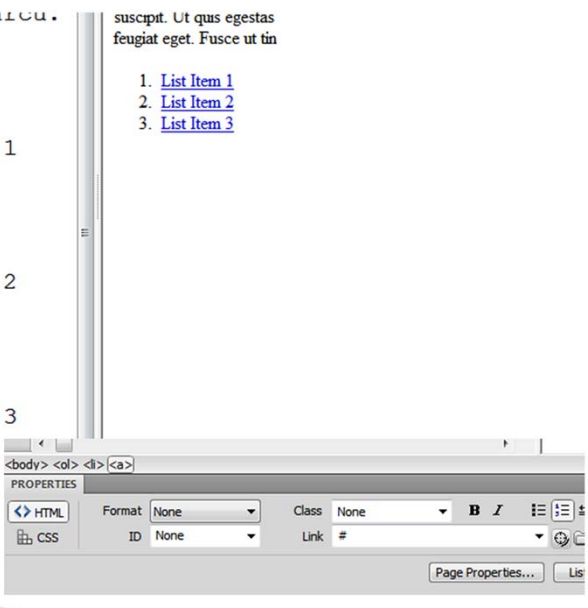
```

maullis quis vici arcu.
</p>
<ol>
  <li>
    <a href="#">
      List Item 1
    </a>
  </li>
  <li>
    <a href="#">
      List Item 2
    </a>
  </li>
  <li>
    <a href="#">
      List Item 3
    </a>
  </li>
</ol>

```

suscipit. Ut quis egestas feugiat eget. Fusce ut tin

1. [List Item 1](#)
2. [List Item 2](#)
3. [List Item 3](#)



Lists are typically used to create menu items or navigation links by selecting each list item in design view and using **Insert Hyperlink**, or just entering a # symbol into the link text box in the Properties panel. The result in code is that each list item is wrapped inside an anchor or <a> tag. The tag has a reference to the destination of the hyperlink. This would normally be the url of another web page, the # symbol just stands as a link placeholder.

**www.lipsum.com**

# Lorem Ipsum

*"Neque porro quisquam est qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit..."*  
 "There is no one who loves pain itself, who seeks after it and wants to have it, simply because it is pain..."

**What is Lorem Ipsum?**  
 Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

**Why do we use it?**  
 It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their default model text, and a search for 'lorem ipsum' will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by accident, sometimes on purpose (injected humour and the like).

**Where does it come from?**  
 Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a Latin professor at Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum passage, and going through the cites of the word in classical literature, discovered the undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by Cicero, written in 45 BC. This book is a treatise on the theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, "Lorem ipsum dolor sit amet...", comes from a line in section 1.10.32.

**Where can I get some?**  
 There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by injected humour, or randomised words which don't look even slightly believable. If you are going to use a passage of Lorem Ipsum, you need to be sure there isn't anything embarrassing hidden in the middle of text. All the Lorem Ipsum generators on the Internet tend to repeat predefined chunks as necessary, making this the first true generator on the Internet. It uses a dictionary of over 200 Latin words, combined with a handful of model sentence structures, to generate Lorem Ipsum which looks reasonable. The generated Lorem Ipsum is therefore always free from repetition, injected humour, or non-characteristic words etc.

The standard chunk of Lorem Ipsum used since the 1500s is reproduced below for those interested. Sections 1.10.32 and 1.10.33 from "de Finibus Bonorum et Malorum" by Cicero are also reproduced in their exact original form, accompanied by English versions from the 1914 translation by H. Rackham.

5 paragraphs

words

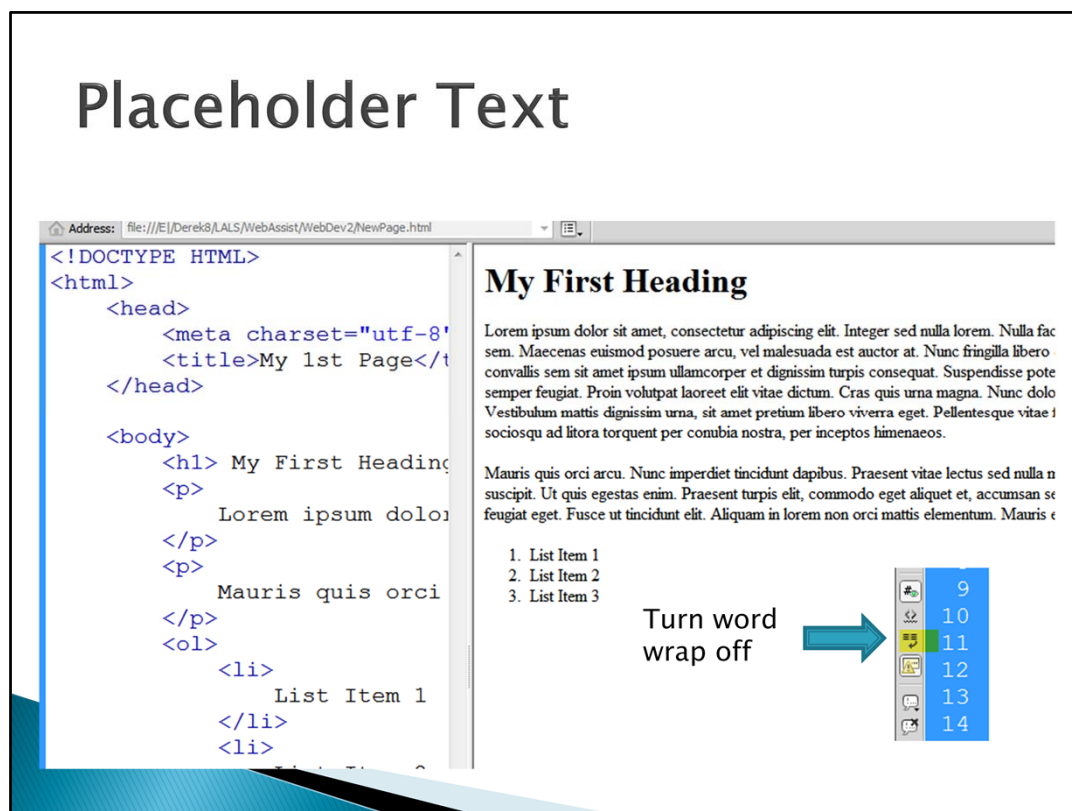
bytes

lists

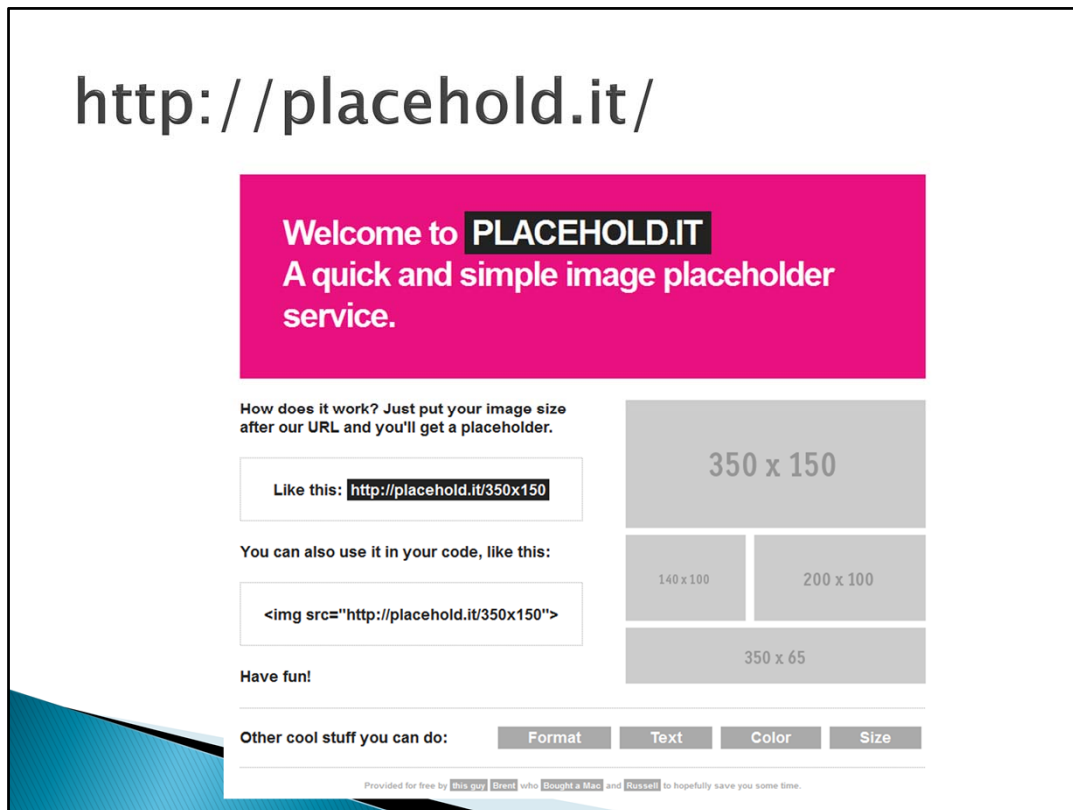
Start with 'Lorem ipsum dolor sit amet...'

**Generate Lorem Ipsum**

In order to see how a web page might look, it is common practice to use the Lorem Ipsum web site to generate placeholder text that can be pasted into a web page in design view in order to give the appearance of a completed page. Click on the **Generate Lorem Ipsum** button and then copy however many paragraphs of latin text you need to mock up the web page.



Having pasted in two paragraphs of Lorem Ipsum text in place of the existing paragraphs, it is best to turn **Word Wrap** off so that this text does not obscure the code listing. There are a number of useful settings in the left margin of Dreamweaver's main window, including indent and outdent, and the ability to add comments to the code.



**http://placeholder.it/**

Welcome to **PLACEHOLD.IT**  
A quick and simple image placeholder service.

How does it work? Just put your image size after our URL and you'll get a placeholder.

Like this: `http://placeholder.it/350x150`

You can also use it in your code, like this:

```

```

Have fun!

Other cool stuff you can do: [Format](#) [Text](#) [Color](#) [Size](#)

Provided for free by [this guy](#) [Drent](#) who [bought a Mac](#) and [Russell](#) to hopefully save you some time.

Most web pages contain images, and it is common practice when developing a web page to put image placeholders in the page to start with. This just helps designers decide what size of image they want, and where on the page they want it. The actual image can be chosen later and substituted for the placeholder. This web site provides placeholders of any size, simply copy the code, paste it into the web page code and then modify the size.

# Image Placeholder

## My First Heading

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer sed nulla lorem. Nunc laoreet in sem. Maecenas euismod posuere arcu, vel malesuada est auctor at. Nunc placerat. Pellentesque convallis sem sit amet ipsum ullamcorper et dignissim turpis mattis. Vestibulum adipiscing semper feugiat. Proin volutpat laoreet elit vitae dictum vestibulum non, pulvinar ut arcu. Vestibulum mattis dignissim urna, sit amet pretium faucibus aliquet in in leo. Class aptent taciti sociosqu ad litora torquent per conubia

```
<p>
  Lorem ipsum dolor sit amet, consecte
</p>

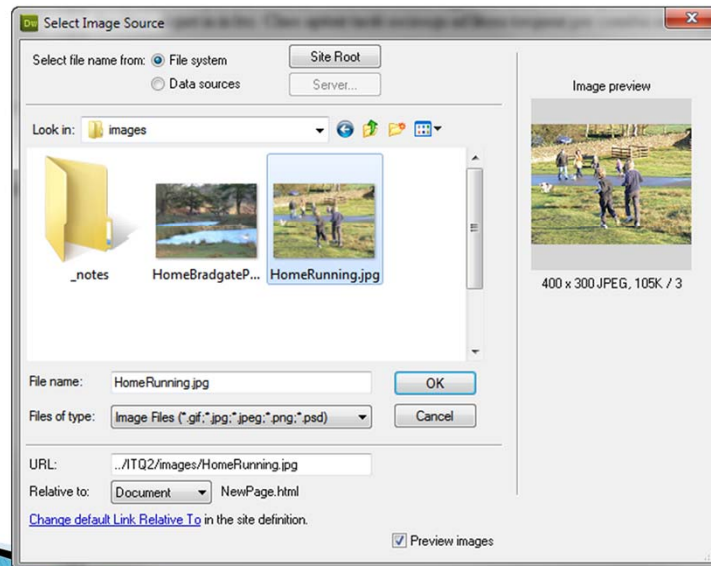
<p>
  Mauris quis orci arcu. Nunc imperdie
</p>
```

00 x 300

Mauris quis orci arcu. Nunc imperdiet tincidunt dapibus. Praesent vitae lectus sed rutrum suscipit. Ut quis egestas enim. Praesent turpis elit, commodo eget aliquet et vulputate lacus feugiat eget. Fusce ut tincidunt elit. Aliquam in lorem non orci mattis

The code to place a real image into a web page is almost the same as the code shown above. In place of the url for Placeholder.it would be either the url of an external image, or the filename of an image inside the web site. To place an image in the web page use **Insert -> Image** from the menus or from the Insert panel at the top right hand corner of Dreamweaver.

## Insert Image



After selecting Insert -> Image from the menus the Select Image dialog appears. Only three image formats are allowable in web pages

1. Gif – limited colours, but can be used to create simple animations
2. Png – unlimited colours and can handle transparency
3. Jpeg – unlimited colours and compressed for small file size


If you select an image outside the web site Dreamweaver will prompt you to copy it inside the web site. All images should be inside the web site so that when the web site is published the images are still accessible.



# Alternate Text

## My First Heading

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer sed nulla lorem. Nulla facilisi. P  
m. Maecenas euismod posuere arcu, vel malesuada est auctor at. Nunc fringilla lib  
lentesque convallis sem sit amet ipsum ullamcorper et dignissim turpis consequat. S  
ibulum adipiscing semper feugiat. Proin volutpat laoreet elit vitae dictum. Cras quis  
non, pulvinar ut arcu. Vestibulum mattis dignissim urna, sit amet pretium libero viver  
quet in in leo. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per



```

```

Mauris quis orci arcu. Nunc imperdiet tincidunt dapibus. Praesent vitae lectus sed nulla mollis s  
rutrum suscipit. Ut quis egestas enim. Praesent turpis elit, commodo eget aliquet et, accumsan s  
vulputate lacus feugiat eget. Fusce ut tincidunt elit. Aliquam in lorem non orci mattis elementum.

After an image has been selected, you will be prompted for an alternative text description of the image. This should always be filled in to provide accessibility for people that are unable to see the image. The alternative text can be read to them by screen readers. Also if for some reason the image cannot be found the alternative text tells people what image is missing.

## Page Layouts

1. Using Frame Sets
  2. Using Tables
  3. Using CSS
- 
1. Browser compatibility
  2. Improving Accessibility
  3. Improving Usability

Over the years the way web developers have positioned elements on a web page has changed. In the early days a web page was broken down into Frames, with each frame being in a separate file. This however did not provide sufficient flexibility and was superseded by using tables. The problem with tables is that they need a lot of code, and maintaining such code is difficult. Tables and Frames both could not be changed easily, requiring every web page to be altered individually.

The current approach is based on CSS, as it has the advantage of reduced code, and increased flexibility. One change in a style sheet can immediately affect all the web pages in the web site. Unfortunately as CSS was not developed to position elements on a page, and therefore using it for that purpose is not easy. Once a style sheet has been devised however it can easily be changed and adapted for future pages.

What makes matters more difficult is that each browser interprets CSS in different ways, and some browsers (in particular IE) do not implement parts of the CSS language. It therefore takes a lot of effort to use CSS and produce the same structure in the different browsers.

HTML5 has introduced a lot of features to improve accessibility for those whose eyesight is poor, and who rely on screen readers to “see” the page. HTML5 also contains improvements that make web pages more useable.

## New Approach

- ▶ Simplicity
  - ▶ Flexibility
  - ▶ Fluidity
  - ▶ Bullet Proof
  - ▶ Progressive enhancement
- 
- ▶ Smart Phones, Tablets, Game Consoles, Internet TVs, Notebooks, etc.

Best practice in web development currently aims at producing pages that are fluid and flexible, and pages that will not break down if the page size is altered. The latest version of CSS has facilities for detecting page size and device, and responding to that by creating different pages to suite the different devices.

To cope with the problem that older versions of the browsers do not understand the latest versions of HTML and CSS, web developers aim to produce pages that will work on any browser, but will look much better in the more modern browsers. This is referred to as **Progressive Enhancement**.

## Visual Design versus Coding

### ▶ Pros

- Can be quicker and easier
- Lets you see how it might look immediately
- Do not need to understand the code
- Do not need to remember the tags

### ▶ Cons

- Can lead to very difficult to maintain code
- Can lead to inflexible code
- You will not fully understand how the page works
- You will not have full control over your pages

Visual Design can make development quicker and easier. It does however have limitations, in particular it can write code that is not correct, or not the best way of doing something. If you do not understand how the code works, it can be very difficult to sort that out.

I plan to focus on using Design View to do what it can do quickly and easily, but at the same time to make sure that you can understand the code that has been written, and can if need be alter that code. There are in fact some aspects of a web page that are quicker and easier to do in code view rather than design view.

## Web Tools

- ▶ Dreamweaver CS5.5
- ▶ Visual Studio Express 2010 (free)
- ▶ Text Editors (notepad+)
- ▶ BlueGriffon <http://bluegriffon.org/>
  
- ▶ Firefox 10 (Firebug)
- ▶ Internet Explorer 9 (IE Tester)
- ▶ Chrome 15

Although these presentations are based on Dreamweaver CS5.5, there are other development tools that can do a similar job. In particular Visual Studio Web Developer Express 2010 from Microsoft is on a par with Dreamweaver, and can be used to edit most of the web pages produced in Dreamweaver. Visual Studio has the advantage that is freely downloadable whereas the cheapest copy of Dreamweaver costs £100 if you are a student, and £400 otherwise.

Web pages can however be produced using nothing more than a simple text editor like Notepad, or Notepad+ which are again freely available software applications. A good alternative are HTML Editors like BlueGriffon in which you can edit in code and design view.

In order to view HTML5 web pages you do need an up to date browser. For web developers the best Browsers are Firefox and Chrome, the worst choice is Internet Explorer. Only version 9 of Internet Explorer can be used to view HTML5, whereas Firefox 3.6 and above was HTML5 capable.

## Books

- ▶ Introducing HTML5 by Bruce Lawson
- ▶ Handcrafted CSS by Dan Cederholm
- ▶ Teach Yourself Dreamweaver in 24 hours

Teach Yourself Dreamweaver is the best choice if you want a reference book on how to do something in Dreamweaver. The book is organised into one hour lessons, and it is easy to find what you are looking for. However it does not have much on HTML3 and CSS3, and does not discuss the best approach to structuring and styling web pages

Introducing HTML5 is a short but excellent book to get you started in using HTML5. Similarly the Handcrafted CSS discusses how best to structure and style pages to produce pages that are both fluid and bullet proof. There are nicely illustrated examples of how to best use CSS.