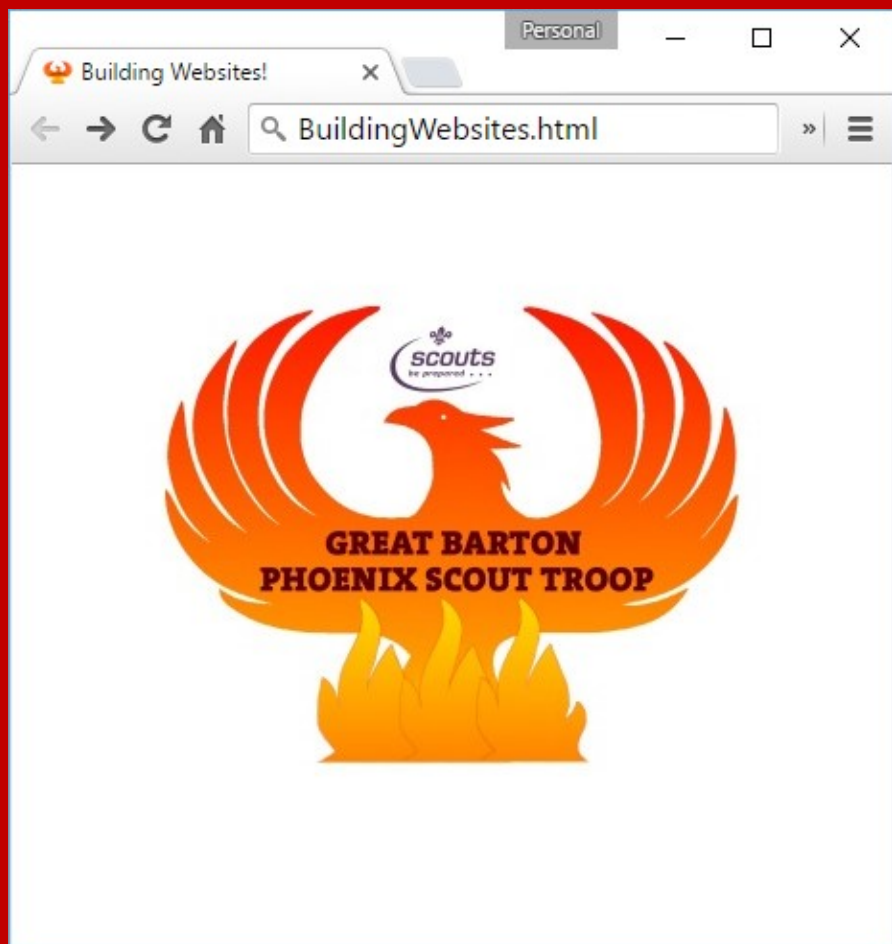


Building Websites



Introduction to <HTML>

Websites are written in a language called HTML. This stands for HyperText Markup Language and was invented in 1990 by a British Physicist called Tim Berners-Lee.

HTML contains a mixture of tags and text and together they describe how the webpage will look.

<tags> </tags>

Tags, sometimes called elements, explain the structure of the web page. They can describe whether the current part of the page should be a paragraph of text, an image or a video. They can describe how these will look, whether they have a different colour or border and where on the page they should be.

There is usually an opening tag and a closing tag.

An opening tag looks like this: `<html>`

A closing tag looks like this: `</html>`

You can see the tags are surrounded by angled brackets `< >` and the closing tag is similar but has a slash `"/` at the start.

On the next page is an example webpage to show some of the different tags that a webpage contains.

Example webpage

```
<html>
<head>
<title>Page Title</title>
</head>
<body>
<h1>Page Heading</h1>
<p>A paragraph with some
<b>bold text</b> and some
<i>italic text</i></p>
</body>
```



What these tags do

`<html>` `</html>` Every web page always starts and ends with these tags - they simply tell the web browser that it is looking at a webpage containing html rather than plain text.

`<head>` `</head>` The header of the page contains some general information about the webpage, like the title.

`<title>` `</title>` The title text that appears in the tab right at the top of the browser.

`<body>` `</body>` Now it gets interesting. This is where all the webpage text and other content like images go.

`<h1>` `</h1>` Headings. These make the text inside them bigger and bolder. `<h1>` is the biggest, `<h6>` the smallest.

`<p>` `</p>` A paragraph of text, which could be a few words or many sentences. Each paragraph is separated by a blank line. Webpages usually ignore any blank lines you put in yourself, so paragraphs are one way to separate text.

`` `` and `<i>` `</i>` Bold and italic text.

Editing/Viewing the file in Windows

Press the Windows key on the keyboard and type in the text: notepad

Click on the Notepad program when it appears.

When in notepad you can type in your HTML code, e.g.

```
<html><body>Hello!</body></html>.
```

Then go to File -> Save and save the file on the desktop with your name, for example fredbloggs.html (The .html is important, do not save as .txt)

Now find the file on the desktop and double click it. It will open in a web browser. To reload a page if you change it, press the F5 key when in the web browser.

Editing/Viewing the file on a Raspberry Pi

Press the Alt and F2 keys on the keyboard at the same time. In the box that appears type 'leafpad' and press OK.

When in leafpad you can type in your HTML code, e.g.

```
<html><body>Hello!</body></html>.
```

Then go to File -> Save and save the file on the desktop with your name, for example fredbloggs.html (The .html is important)

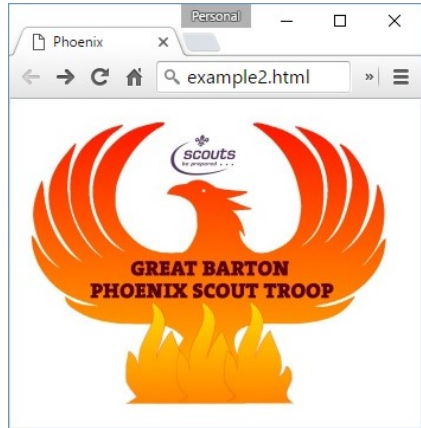
Now find the file on the desktop and double click it. It will open in a web browser. To reload a page if you change it, press the F5 key when in the web browser.

Images

So far the page looks pretty boring. No colour and no pictures. Fortunately there are other html tags that can help with this.

```
<html>
<head>
<title>Phoenix</title>
</head>
<body>

</body>
</html>
```



This introduces the `` tag. This is slightly different to the tags we have seen so far.

First of all there is no closing tag. As there is no text or other tags to go inside it, it doesn't need to be closed.

Examples of other tags which don't need to be closed are `
` which adds a line break, and `<hr>` which inserts a line across the page, called a horizontal rule.

Secondly `` contains some other text within the tag itself. These are called attributes. In this case the `src=""` attribute states the name of the picture file to display.

Attributes

Most tags can contain attributes. The attributes allow you to give additional information about how the particular tag should act or look. You've already seen the `src` attribute in the `` tag, but there are many others. Attributes are added within the tag and are usually followed by an equals and some further information

```
<tag attribute="information"> ... </tag>
```

A tag could contain several different attributes

One important attribute is `style` which describes how the tag should look by using a language called CSS. This stands for Cascading Style Sheets.

CSS and the *style* attribute

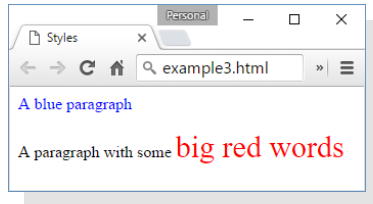
CSS is a very powerful feature that was introduced in 1994 to make it easier to change how parts of a webpage looked. One way that CSS styles can be added to a tag is by using the `style` attribute. `style` can be added to most of the tags, but there are two special tags called `<div>` and `` where they are used the most.

`<div>` is very similar to `<p>` and is used to surround a large section of text or other tags to describe how they all look. A blank line will separate div's.

`` is used just to surround a very small section, perhaps just a word or two. No blank line is added after it.

style example

```
<div style="color:blue">A blue paragraph</div>
<div>A paragraph with some
<span style="color:red; font-size:30px">big red words
</span></div>
```



As you can see in the example, the `style` attribute contains one or more instructions to say how the text will look. An instruction looks like “`command:value`”, note there is a colon in the middle. Multiple instructions are then separated by a semicolon (;)

The above example shows that the ‘`color`’ style (note the American spelling - the British spelling won’t work) changes the colour of the text. The ‘`font-size`’ style will change how big the text is. It also shows two different styles used at the same time in the same `` tag.

Other styles you could experiment with are:

```
style="background-color:yellow;"
style="background-image:url(scoutlogo.jpg);"
```

(You could use these on the `<body>` tag too)

```
style="border-style:dotted; border-width:5px;
border-color:purple"
```

(instead of dotted, also try: solid, dashed or double

More style examples

```
style="font-family:comic sans ms; font-size:30px;  
      font-style:italic; font-weight:bold; color:orange"
```

```
style="position:fixed; left:640; top:300;"
```

This can be used to put something in a specific place. As well as fixed, you could try static, fixed & absolute.

Other tags

One important element of a webpage is a link to another page. The `<a>` anchor tag is used for this.

```
<a href="example5.html">My other page</a>  
<a href="http://google.com/">Google it!</a>
```

Use `
` for line breaks and `<hr>` for a separator line

Numbered lists:

```
<ol>  
<li>Number one</li>  
<li>Number two</li>  
</ol>
```

Bullet points:

```
<ul>  
<li>Bullet one</li>  
<li>Bullet two</li>  
</ul>
```

Tables:

```
<table border="1">  
<tr><td>Row 1 Cell 1</td><td>Row 1 Cell 2</td></tr>  
<tr><td>Row 2 Cell 1</td><td>Row 2 Cell 2</td></tr>  
</table>
```

