

Criterion E: Product development

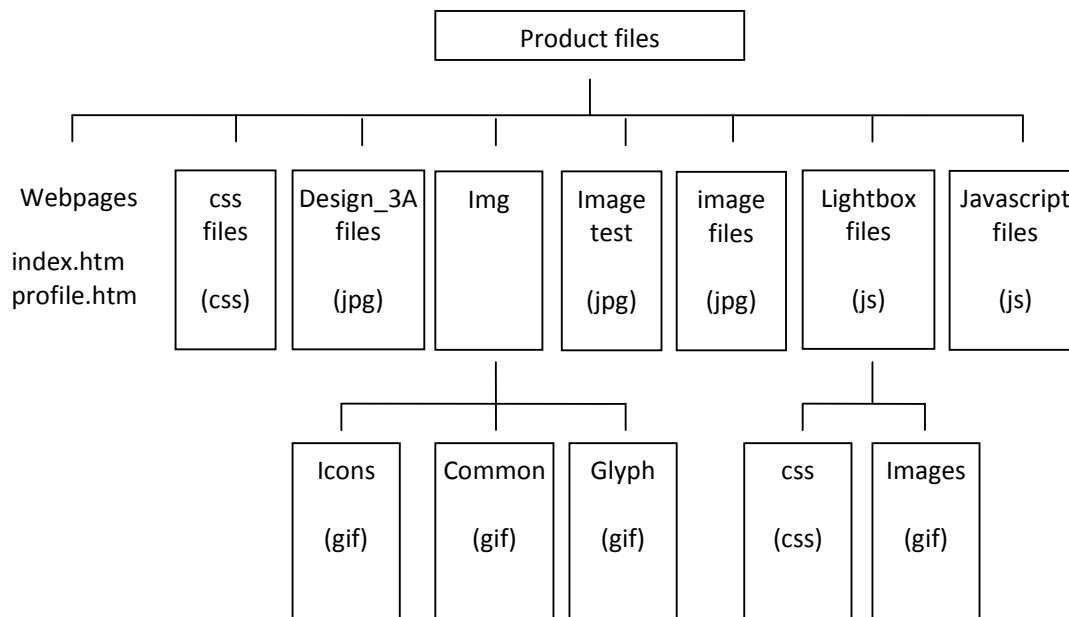
Complex techniques used to address the client's requirements:

- Manipulated graphics (pages 8-9)
- Use of Javascript to customize pages and improve functionality (pages 3, 6-7)
- Use of HTML to customize pages and improve functionality (pages 3, 5-7)
- Cascading style sheets (pages 3, 6)
- Editing the code in the template in the editable sub-regions (page 4)

Bullet points 2 and 3 are considered together. The combination of HTML and Javascript meets functionality. The product is clearly complex. The entering of text in the template in this example is not sufficient to be considered complex.

Organisation of the website (Document object model)

This indicates how the website is structured:



Content has been placed in appropriate folders with logical folder names. For example, all the original images provided by Keith are added to the images folder. **[Structure justified]**

The images are all in one folder to make them easy to locate. Again this may need to be changed as more images are included so the image folders correspond to the webpages **[Organization justified]**

The webpages are all in the same folder as the homepage (index.htm), on a bigger site these pages may be needed to be placed in different folders to assist maintenance.

The diagram should be accompanied by a description of the various file types. There is justification for the structure that has been chosen.

The structure and organisation of the webpages

Technique: css

The website was created using Adobe Dreamweaver and is relies on the use of a cascading style sheet file (.css). This file enables consistency between the pages. This makes it possible for each page to have exactly the same style, eg. heading style, text size and colour, spacing as well as enabling web pages to load faster as less code is located on the page. The stylesheet is inserted into the head of the webpage between the <HEAD> and </HEAD> tags.

The style sheet is linked as follows:

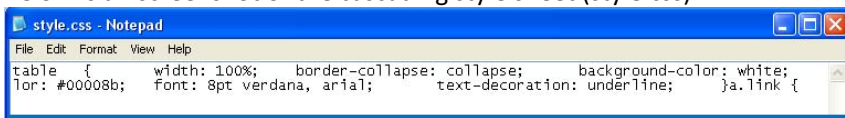
```
<link rel="stylesheet" href="css/lightbox.css" type="text/css" media="screen" />
```

This one style sheet can be referenced on many web pages and can affect every one of those pages.

Statement	Meaning
rel="stylesheet"	This defines the relationship between the HTML page and the stylesheet. This is the default relationship and is the preferred option. Alternative stylesheets may be used they are referred to by a different name.
href="css/lightbox.css"	This tells the browser to locate the lightbox cascading style sheet allowing this feature to be used
Type="text/css"	This allows the page only to support css or text stylesheets, all others are not supported
Media="screen"	This is the default value for the (the default value), the presentation on non-paged computer screens. Other media that may be supported are Braille, printer, projection and aural

The use of a cascading style sheet also allows for absolute positioning. This means that you can determine the order that a search engine spider will come to the text without affecting how the page is viewed in a browser.

Below is a screenshot of the cascading style sheet (style.css)



Using a cascading style sheet is an advanced technique. A screenshot should also be included that shows the effect of a cascading style sheet on the actual webpage. There is a clear description of the HTML code for the style sheet.

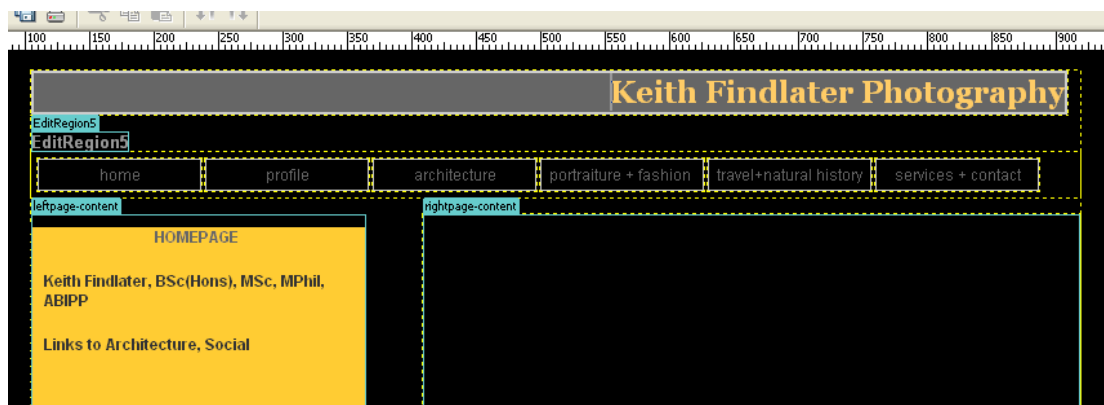
Technique: editing templates

Every page is based on a template which is part of the Dreamweaver package. This makes sure the layout, fonts, background colours, etc. on Keith's website are the same.

The template I have used is shown in the screenshot below.



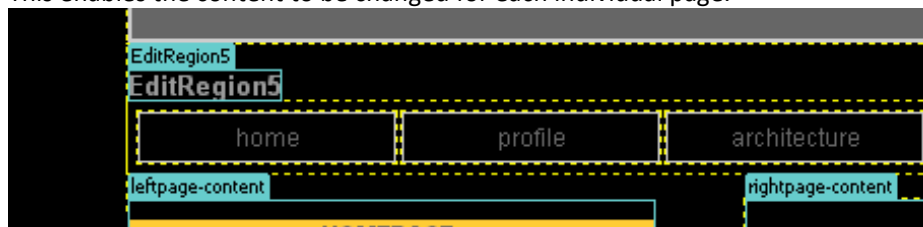
The screenshot below shows the master template.



On this template, there are three editable regions, as follows:

- "EditRegion5",
- "leftpage-content"
- "rightpage-content".

This enables the content to be changed for each individual page.

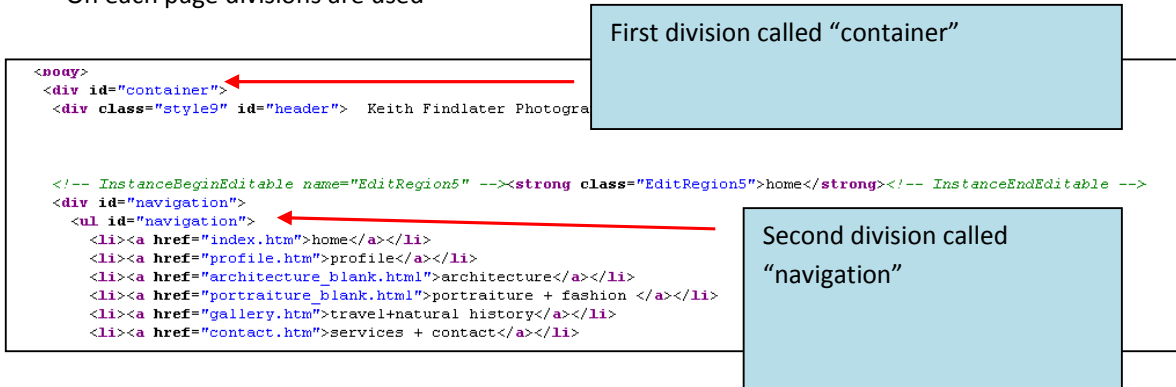


The use of the template is described and supported by appropriate description. There is no evidence of the templates being edited beyond information being typed into them. This does not contribute to the use of advanced techniques. Some justification for using the template has been provided.

The internal structure and organisation of the webpages

Technique: use of HTML to improve functionality

On each page divisions are used



This shows the use of layers (indicated by the div tag) which allow valuable content required by Keith can be added to the pages such as text, images and other page elements. These can be placed it at the top of the source code for an added boost in prominence and relevancy. The use of layers also ensures maximum cross-browser compatibility

Each of the divisions has an identifier to allow them to be used to create CSS rules that, when applied, change the style and positioning of the layers.

Each of the images is linked to the webpages as follows:

```
<a href="images/image-061.jpg" rel="lightbox" title="061"></a>
```

Statement	Comment
<code><a href="images/image-061.jpg"</code>	This is the location of the image that the link will open when clicked
<code>rel="lightbox"</code>	This tells the browser to overlay an image in a box on the webpage, it does not create a new page
<code>title="061"></code>	Title of the image
<code><img src="images/thumb-061.jpg"</code>	The name of the image that forms the hyperlink, when this is clicked the image named "image-013A.jpg" will be opened on the window
<code>alt=""</code>	Alternative text that appears when the mouse hovers over the image
<code>width="100"</code>	The width of thumbnail image in pixels, this was reduced to 100 using HTML code from the original size of 504
<code>height="100"</code>	The height of thumbnail image in pixels, this was reduced to 100 using HTML code from the original size of 360

Technique: use of Javascript to improve functionality

A clear detailed description in the table and justification have been provided for the use of HTML to improve functionality. The text in the table is included as it involves description and/or explanation.

To allow the photos to appear in the manner Keith required javascript code was used. This was taken from websites as open-source code.

The code for the lightbox function was taken from:

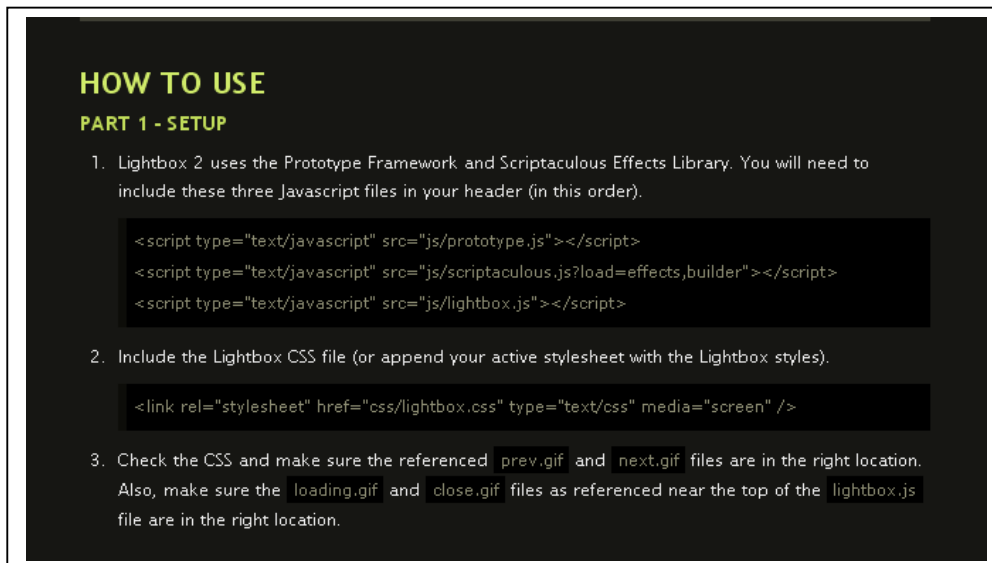
Dhakar, Lokesh. "Lightbox2." [Huddletogether.com](http://www.huddletogether.com/projects/lightbox2/). 03 Sep 2008. 25 Oct 2008
<<http://www.huddletogether.com/projects/lightbox2/>>.

Below is a screenshot of some of the instructions on the website, Lightbox2

I have used this technique because it places images above the current page, not within. It also automatically adjusts the size of the frame to fit the image.

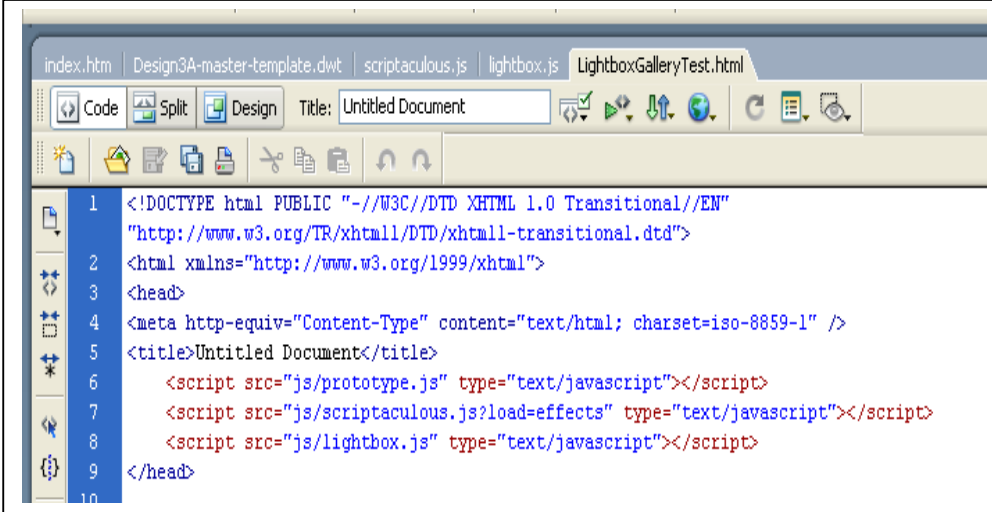
As the directions indicated in step 1 below I downloaded the three files.

As the directions indicated in step 2 below I edited my HTML code to improve the quality of my website.



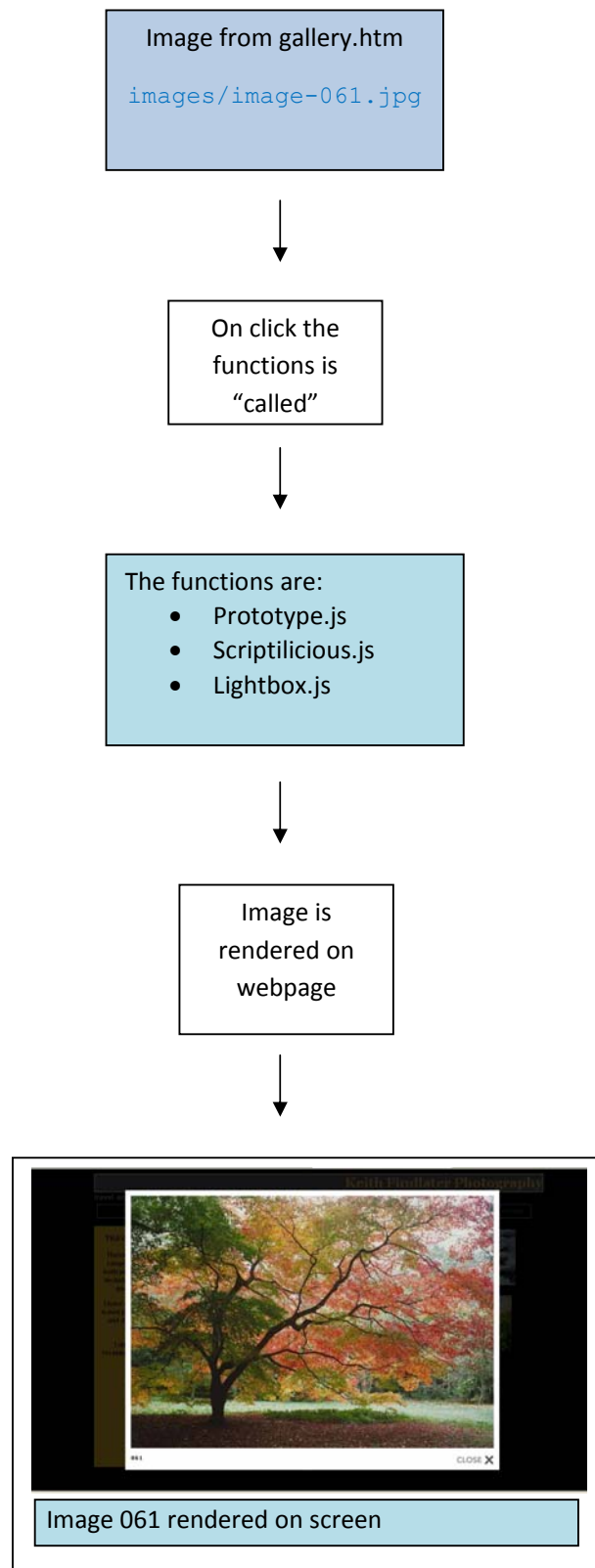
The screenshot text is not included in the word count.

This was then pasted into the website and linked to the relevant files in the javascript folder.



```
1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
2 "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">  
3 <html xmlns="http://www.w3.org/1999/xhtml">  
4 <head>  
5 <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />  
6 <title>Untitled Document</title>  
7 <script src="js/prototype.js" type="text/javascript"></script>  
8 <script src="js/scriptaculous.js?load=effects" type="text/javascript"></script>  
9 <script src="js/lightbox.js" type="text/javascript"></script>  
10 </head>
```

Diagram to show relationship between the link from the image on the webpage (gallery.htm) and javascript functions



A clear detailed description and justification have been provided for the use of Javascript to improve functionality.

Technique: Image manipulation

All the images for the website were taken by Keith Findlater with his Nikon D700.

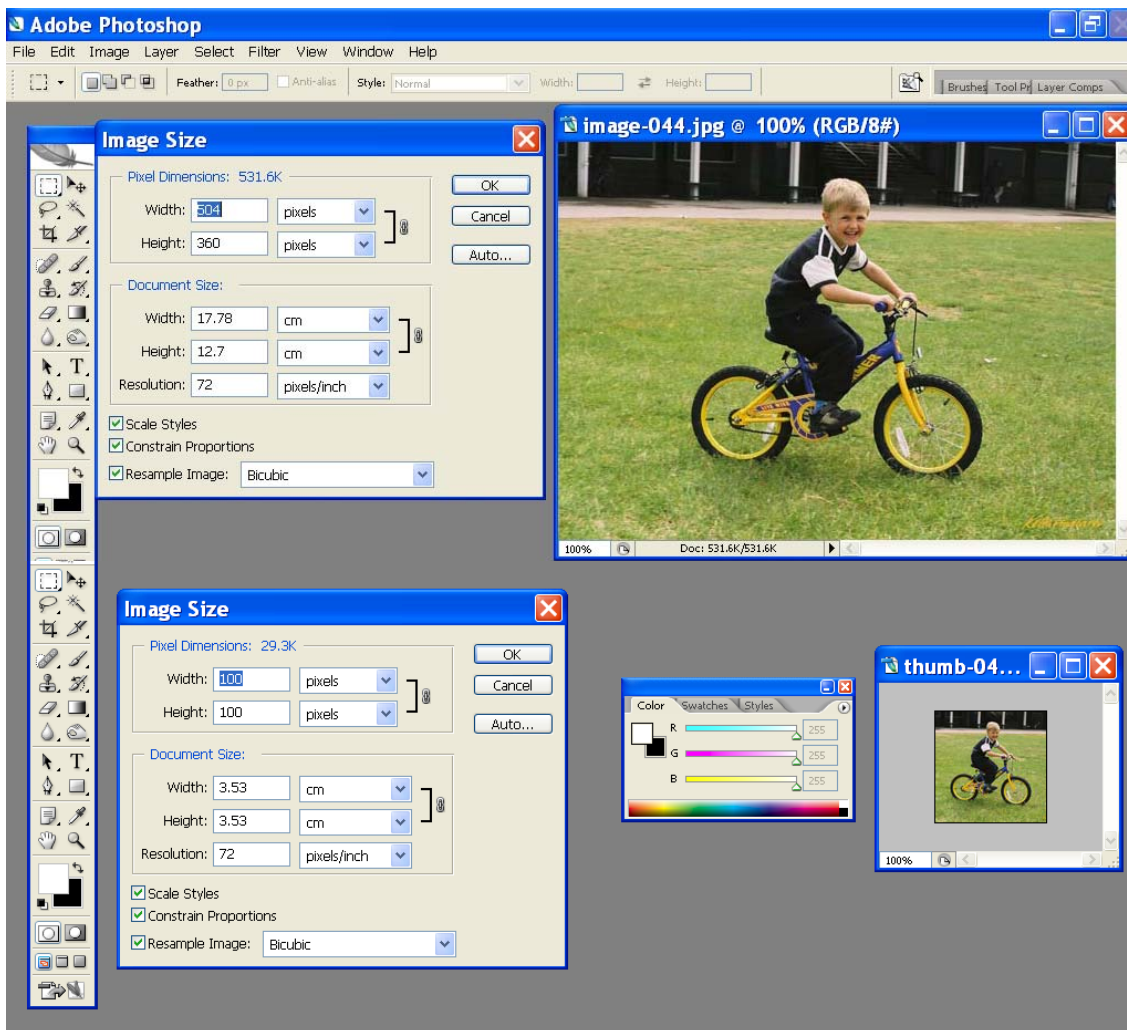
In this case Photoshop was used to create thumbnail images. The original file was reduced in size and resaved as a thumbnail.

The original image taken was 3264 x 2448 pixels (3.58 Mb). The resolution of this image was 180 pixels per inch.

This was reduced to 504 x 360 to be used on the website with a resolution of 72 pixels per inch. See screenshot below:



I also reduced this image to a thumbnail which was 100 x 100 pixels.



The image size and resolution was reduced to increase the speed of loading of the webpage, reduce the size of the images that were required to be uploaded to ensure Keith did not exceed the allowance provided by his ISP.

Many of the images, including this one had a poor colour balance and this was corrected by using the adjustments menu in Adobe Photoshop CS4.



The above images show the before and after results of using the adjustments of color balance and hue/saturation.

To make these changes the following techniques were used:

- Lightness was reduced by 20%
- Saturation was reduced by 20%
- The level of red was increased by 32%
- The level of blue was increased by 17%
- The level of green was increased by 12%

There is some reference to the tools that were used to manipulate the images. However, more detailed description on the use of the tools in Photoshop is needed. The changes indicating the percentage of change for hue/saturation and colour shows that the student used the tools. The description would have been improved if the screenshots of the techniques had been included with justification of why the changes were made.

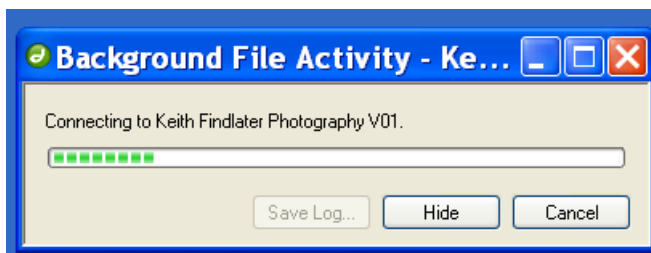
Other information

- Keith is aware that if he wishes to have webpages running file types such as .asp and .php, he will need to increase his subscription to the ISP. Currently he can only run basic webpages.
- He has a restriction on the size of webspace allowed, but he is concerned that as he increases his website he may need to purchase additional storage.

The website is uploaded using the ftp facilities in Adobe Dreamweaver using the connection available in the software.



This creates the activity indicated below:



The screenshot below shows the site definition for Keith. This allows him to change settings for the connection, the remote folder and any passwords needed to gain access to his site.



The images below show that the website has been uploaded and is available on the Internet.





This text in the screenshot is not included in the word count.

Word count = 958

8 marks

There are at least three advanced techniques used in the development of the product. The structure of the complex product and the choice of techniques, with screenshots, used to develop it have been justified. Sources are cited appropriately.

The word count for this criterion is approximately 960. This has been determined by including all extended text either written in paragraphs or within tables where it explains or justifies the selection or operation of a particular technique.

The following are not included in the word count:

- titles and subtitles
- labels for screenshots
- text within screenshots
- bullet points and text within tables (unless they include descriptions, explanations or justifications—which have been highlighted in green)
- citations

- code.

Teachers and moderators will be expected to use their professional judgment in determining what is included in the word count and will not be required to examine each piece of text.