Web Design

HTML5 and CSS3

http://www.zype.co.

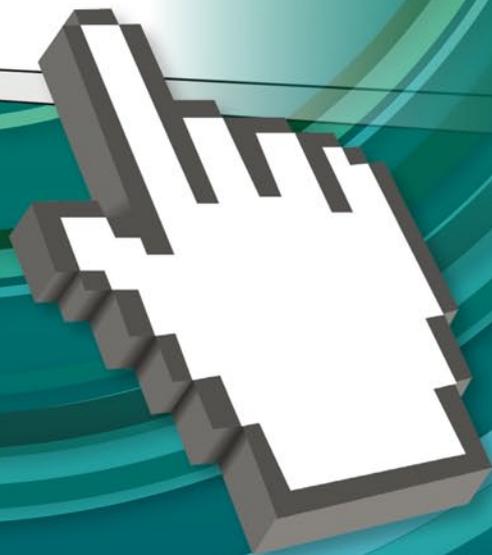**ZYPE Education Resources**

About ZYPE:

ZYPE is a design company and an outlet for creative work that would otherwise be pushed to one side by our day-to-day focus.

Originally created by Josh in August 2001 as a way to promote user interaction and accessibility in the software design process and focus on using web standards the company has become a way for us to be our wonderful creative selves while providing for a way to sell our work as and when it becomes worthy.

These resources are intended to provide teachers with up to date skills in a format that they can quickly integrate into classroom teaching.

About the Author:

Josh Campbell is an experienced web designer, with over 10 years industry experience after he was first introduced to web design in the last few months of completing a Bachelor of Arts degree, majoring in Design Studies. He went on to successfully run his own web design business before becoming a secondary school teacher specialising in ICT and Graphics.

He is a strong advocate for the use of open source software, especially in education, and the use of open standards, specified by the World Wide Web Consortium W3C.org) in web design. Josh has returned to the web design industry to integrate his teaching and web design skills in a design team.
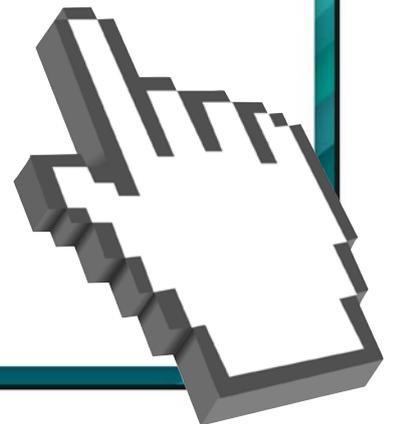
Graphic design by Cynthia Packman.

Contents

Table of Contents

Introduction

The World Wide Web is an exciting way for people to publish content and communicate with others. It is a rich, diverse and ever changing environment with no hard and fast rules about who can publish what. It does not require complex tools or a knowledge of programming and the languages are freely available for anyone to use.

For students it is a great medium for practicing a range of skills from writing and graphic design to information architecture and usability. The low barrier to entry means students get results very quickly and can continue to extend their knowledge and skills in a range of areas and the confidence gained by publishing their own content for the World to see is incredibly valuable.

For teachers the web provides a simple mechanism for introducing and teaching a range of topics as well as introducing students to skills they can take into other areas of their lives.

The Web had a pretty shakey start in life and went through a lot of changes before maturing and becoming somewhat stable in terms of the technologies used. Browser developers raced off at tangents to each other and the original intent of the Web, Designers found hacks that allowed them to create visual interfaces within those browsers and people found new and interesting ways to use it.

Today we have a stable set of standards to work with from the World Wide Web Consortium (W3C, founded by Tim Berners-Lee, the inventor of the Web), browsers have generally settled down to follow these standards, designers have been moving to these standards in their work and people are still finding new and interesting ways to use the web.

This resource covers the following:

1. an introduction to HTML5
2. how to build a simple web site using HTML 5 and a combination of style rules from CSS 2 and 3

Suggestions for using the tutorial

The tutorial covers the technical aspects of building a simple, static web document that could be used to build a full web site. It is split up into two distinct areas:

1. creating HTML 5 to structure the content
2. creating the CSS to visually style the content

The **HTML5 section** covers setting up a template that will form the basis of the web site. It walks students through simple mark up and how it is used before they apply a visual style.

For courses focusing on the development of a visual style or other aspect of web design the full HTML template is available as part of this resource and could be provided to the students.

The **CSS section** shows students how to set up an external CSS file and the rules for styling all elements in the HTML template.

The CSS covers a range of commonly used styles and conventions for supporting older browsers.

HTML 5

HTML5 is the fifth revision of the HyperText Markup Language specification and is intended to bring together the HTML4 and XHTML1 specifications.

The HTML5 specification has a strong focus on introducing a greater range of multimedia elements but has also introduced a number of structural elements which allow us to provide greater definition in our web documents.

For students the benefits of working with HTML5 include:

- a larger set of structural elements that help reinforce the idea of a structured document (the key to good web design)
- it will be familiar to students who have already worked with XHTML or HTML
- it is more forgiving than XHTML 1.0

CSS3

The CSS3 rules used in this resource add style to a defined structure and include rules for visual styles such as rounded corners, drop shadows, and gradients. The majority of the rules are from CSS2 and should be fairly familiar.

The aim is to focus students on using external stylesheets for all visual style and avoid complex workarounds using images and non-sematic markup (e.g. excessive <div> or misused <table>).

Contents

Resource Notes:

The resource includes a method for forcing older browsers to accept the new HTML5 elements into their Document Object Model. This comes in the form a javascript library from Google called the HTML5shiv.

Many of the CSS3 rules will not render in Microsoft's Internet Explorer browsers (versions 6, 7, 8, 9) and the resource does not include techniques for forcing these to appear via javascript. The focus is on graceful degradation and developing the habit of designing for the presentation of content rather than a visual style the appears the same across all devices.

Prior Learning

Students will be expected to have worked with a markup language, either HTML4 or XHTML1, and be familiar with external cascading stylesheet files.

This resource uses no images in the final visual style so no experience with image manipulation is required.

For students starting out with web design our resource: *Web design: A beginners guide to building web sites* is an ideal place to start and then extend with *Web Design: HTML5 and CSS3*.

Tools

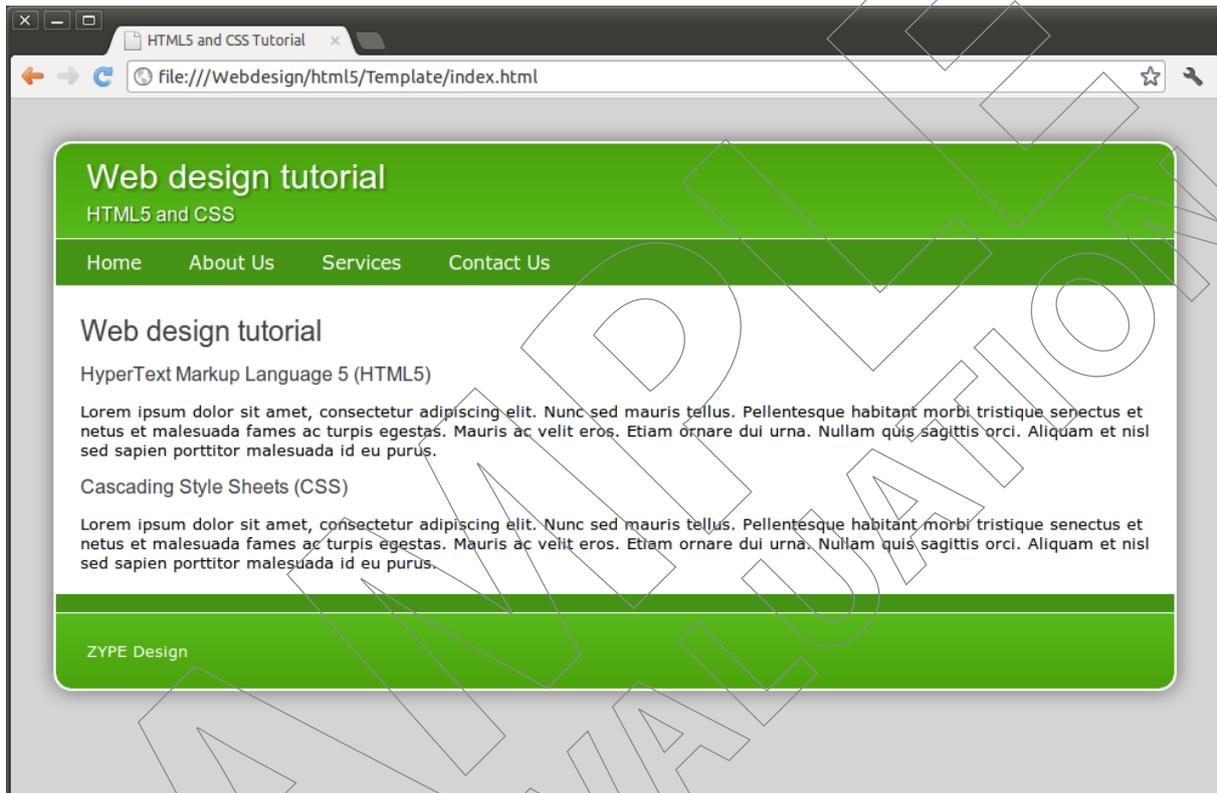The following tools will be required to complete the tutorial:

Text Editor: a plain text editor for creating the HTML and CSS.

Browser: the final web site will be presented in a browser. It is ideal to build in a browser that has high compliance with the W3C standards, i.e. Mozilla Firefox, Google Chrome, Apple Safari, and then test in a range of browsers to ensure the visual style remains consistent.

Contents

Concept

We will be building up a HTML document and visual style to create a template that could be used to build an entire web site.

This is the concept that we will be using to build up the visual style:

Contents

Setting up a file structure

The folder structure becomes important as a project grows and includes more files, scripts and images and a consistent and manageable structure enables other people to work with you without needing a lot of time "figuring out how you did things".

The folder and file structure referred to in this resource is fairly simple and includes the HTML5 file(s) and a CSS file.

The Folders

Create a top level folder with your Project Name and place a CSS folder inside this so it looks like:

▼ 📁 MyProject

    ▶ 📁 css

If you use images in your project you can add an 'images' folder within the MyProject folder. The same goes for javascript files etc. Keeping them separated and consistently named makes it easier to find them later.

The Files

Within the MyProject folder create an empty plain text file called **index.html**. This will be our HTML5 file.

Within the **css** folder create another plain text file called **styles.css**

That's it. We are ready to get into the HTML5.

Contents

The HTML

We are going to start by creating the HTML so that we have a framework for the visual style.

This is effectively about setting up a document structure that will be used to present content and, while it is not overly glamorous work, it is very important to the success of the web site.

For this stage you will need a plain text editor and a browser.

Open your *index.html* file in a plain text editor.

Add the doctype and HTML element:

```
<!doctype html>
<html lang="en" dir="ltr">

</html>
```

If you are familiar with HTML4 or XHTML1 you may have noticed the document type declaration is a lot simpler and the attributes in the html element (*language* and *direction*) have also been simplified.

Add the <head> element next. This sits in between the <html> and </html> tags:

```
<head>
    <title>HTML5 and CSS Tutorial</title>
    <meta charset="UTF-8">
    <meta name="keywords" content="">
    <meta name="description" content="" />
    <link rel="stylesheet" type="text/css" href="css/styles.css" media="all" >
    <!--[if lt IE 9]>
            <script src="http://html5shim.googlecode.com/svn/trunk/html5-els.js"></
script>
    <![endif]-->
</head>
```

The first five elements are common to HTML and XHTML and are used to provide information (known as metadata) about the document:

Title: The name of this document. A typical use for this is to add the name of the web site.

Charset: The character set being used to render the content. UTF-8 is a common set.

Keywords: A set of words that describe the content within the document

Description: An overall description of the content in the document

link: A link to the external stylesheet. Notice it links to our external stylesheet: css/styles.css

script: This is the HTML5shiv that links to a javascript file on googlecode.com. Google have made this script available for download so you can store it in your own javascript folder. In this case it is being included for Internet Explorer browsers that are below version 9.

Contents