**1 HTML Introduction**

**Reference in Musciano Book: Ch. 1-4, 6-7**

HTML Introduction

Once upon a time, the Internet was invented. The Internet was simply a collection of computers, connected together via phone lines, with information copied and shared between many, far-flung storage devices. In case of war, this distributed information system would prevent a single bombing strike from disabling or destroying key systems dependent on the free flow of information. All government, educational, and research institutions were to be connected via the Internet.

The Internet was not designed for the business and advertising communities, or even the general public; it was created to serve scientific, educational, and governmental ends. No one foresaw the impact the Internet would have, one day, on business, publishing, entertainment, and the world at large.

When the Internet was still a medium primarily for scientists and educators, information was mostly conveyed through digital text, or raw data files; presentation of this data was crude as display devices were fairly primitive and data transmission rates were slow. As the technology improved, some people working at CERN, in Switzerland, developed a slightly more sophisticated language for combining text with pictures and other digital media, which they dubbed "HTML", or "Hyper-Text Markup Language".

Not only did HTML provide a language for displaying text and pictures SIMULTANEOUSLY (wow!), it also devised the notion of "hyper-text", clickable words which could be used to summon OTHER digital resources, such as HTML pages, pictures, and sound files. It was felt, at the time, that this would provide scientists and academics with a convenient way to create automated footnotes and tables-of-contents, as well as a more sophisticated means of accessing data files.

Within just a few years, HTML, it's "World Wide Web", and the Internet transformed our society, affecting everything from business to entertainment, communication and communities to publishing and pornography. Technological advances on the Internet have moved so quickly that it is easy to lose sight of certain fundamental truths.

HTML is, at heart, a structural language. It was designed for scientists and educators, not for print publishing professionals. It is easy to mark-up a list of bullet points. It is simple to mark a paragraph of text. It is child's play to insert a picture, link to another website, or create a spreadsheet-like table of data. It is impossible to create an absolutely 100% consistent appearance for any of these things. Different hardware and display devices, different operating systems, different software, all contribute to variations and inconsistencies in appearance and layout which can not be completely reconciled at this time.

What is HTML?

HTML (Hyper-Text Markup Language) is a display language, a text-only code which tells a web browser (such as Internet Explorer or Netscape Communicator) how to assemble a web page of text, pictures, and other multimedia content.

How does this work?

HTML pages are stored as ASCII (text-only) files on a web server. Pictures, stored as GIF or JPEG files, are also stored on a web server. When an HTML page is called up in a web browser, the HTML code tells the browser where on the web server the pictures are located, and where on the page those pictures are supposed to be displayed. The web browser, armed with this information, goes out onto the Internet, downloads the appropriate pictures, then lays them out in the browser window alongside the coded text.

To state this another way:

An HTML page, when displayed in a web browser, looks like a single file containing both text and pictures. In fact, an HTML page with pictures and text is really composed of separate elements: an ASCII (text-only) HTML document containing the text and HTML code, and a separate GIF or JPEG file for each picture.

**Please Note:**

The HTML discussed in Book 1 is XHTML and HTML5. 2010 is the year that began a conversion from XHTML to HTML5. Most of the tags of XHTML and HTML5 are the same. See this page for the [history of the transition](http://www.landofcode.com/xhtml-tutorials/xhtml-history.php)from HTML to XHTML to HTML5.

XHTML Overview

By the late 1990's, the W3C (World wide Web Consortium) was interested in standardizing what was called version 4 of HTML. But Explorer and Navigator often played fast and loose with the official version, each in their own way. And the problem of complexity remained. For browsers designed to run on personal computer, this looseness and complexity does not pose a major problem. PCs have plenty of memory and storage space. Everyone could see, however, that a new generation of web-enabled devices like hand-held computers and intelligent cell phones was on the way. The W3C estimated that by 2002 up to 75 percent of computers connected to the Internet would be small web-enabled devices. Like many predictions, their timing was overly optimistic, although clearly the trend is in that direction. Such devices do not have the memory and storage space to handle a full-featured browser displaying full-featured web pages. Nor would most web pages, which are designed to be viewed on PC monitors, display well on the screens of small devices. In addition, there was the problem of HTML not being able to handle nontraditional content such as chemical formulae, musical notation, or mathematical expressions.  
  
To answers these needs, the W3C decided that instead of making an HTML version 5, it would turn to a different language that it had been developing: Extensible Markup Language, or XML. The primary motivation for creating XML was the need to send data over the Internet in a universal, structured format, especially as electronic commerce and data exchange over the Internet began to take off in the 1990's. XML is a set of rules that lets web designers classify their data in a way customized to their needs by creating new types of tags. Thus the name extensible: XML allows designers to extend the language to fit their needs.  
  
The W3C decided that the best approach to solve HTML's problems would be to reorganize and reformulate it from the ground up using XML rules. Because this new version of HTML would not be based on earlier versions of HTML, but on XML, it was named Extensible Hypertext Markup Language, or XHTML. The first version of XHTML was released in january 2000. Navigator 6 and Explorer 6 both support XML for the most part, and thus also support XHTML. In order to ensure that XML is universal, (that it works no matter the device being used), it has has some very strict rules. As an XML-based language, XHTML inherits these rules (and their benefits). For example, unlike HTML, XHTML is a case-sensitive language. The way you type the name of an element matters. The W3C chose to use lowercase letters for XHTML tags. So, even though <BODY> or <body> is acceptable in HTML, only <body> would be correct in XHTML. Two other important rules for using XHTML: all tags must have corresponding ending tags and all tags must be properly nested. Now let us look in more detail at what you will need to create an XHTML document.

NOTE: When using XHTML to create a Web document, your file extension should be html, NOT xhtml. For example, hw2.html is correct, whereas hw2.xhtml is NOT correct.