

Basics of Web Design I

Content

- General Concepts
- Basics of HTML
- Web design tools

General Concepts

The Internet

- The **Internet** is a worldwide collection of computers linked together for use by organizations, and individuals using communications devices and media
- A **node** is any device, such as a computer, tablet, or smartphone, connected to a network
- A **network** is a collection of two or more computers linked together to share resources and information
- An **Internet Service Provider (ISP)** is a company that has a permanent connection to the Internet backbone

General Concepts

The World Wide Web

- The internet is the infrastructure or the physical networks of computers
- The World Wide Web, also called the **web**, is the service that provides access to information stored on web servers
- The web consists of a collection of linked files known as **web pages**
- A **web site** is a related collection of web pages created and maintained by a person, company, educational institution, or other organization

General Concepts

The World Wide Web

- A **home page** is the first document users see when they access a website
- A **hyperlink**, commonly called a **link**, is an element that connects one webpage to another webpage on the same server or to any other web server in the world

General Concepts

The Protocols

- A **protocol** is a set of rules that defines how a client workstation can communicate with a server
- A **server** is the host computer that stores resources and files for websites.
- **Hypertext Transfer Protocol (HTTP)** is a set of rules for exchanging text, graphics, audio, video, and other multimedia files on the web
- **File Transfer Protocol (FTP)** is used to exchange files from one computer to another over the Internet
 - This protocol does not provide a way to view a webpage

General Concepts

The Protocols

- **Internet Protocol (IP)** ensures data is sent to the correct location
- The **Domain Name System (DNS)** associates an IP address with a domain name

General Concepts

Web Browsers

- A **web browser** is a program that interprets and displays Web pages and enables you to view and interact with a Web page
 - Microsoft Internet Explorer, Microsoft Edge, Mozilla Firefox, Google Chrome, Opera, and Apple Safari
- A **Uniform Resource Locator (URL)** is the address of a document or other file accessible on the Internet
 - <https://www.w3schools.com/html/>
- A **domain** is an area of the Internet a particular organization or person manages.

General Concepts

Web Browser



General Concepts

Websites categories

- A website can be static or dynamic
- A **Static Website** (sometimes called a flat or stationary page) is displayed in a web browser exactly as it is stored. It contains web pages with fixed content coded in HTML and stored on a web server. It does not change, it stays the same, or "static" for every viewer of the site. A Dynamic Website (also referred to as a database-driven site) requires web programming and database design.
- A **Dynamic Website** contains information and content that changes, depending on factors such as the viewer of the site, the time of the day, the time zone, or the native language of the country (the viewer). The content of your site (text/images) is stored on a database or content management system. When the information is updated or changed within the database, it changes on the site.

General Concepts

Some common types of Websites

- Electronic commerce (e-commerce) – which support buying and selling of goods and services on the Internet
- Educational - used by academic institutions eg. Learning Management System (LMS) to simplify course management
- Search engines - provide access to sites
- Blogs - provide an opportunity to become a thought leader
- Portfolio - it may be a personal site, all about showcasing your professional work with the goal of winning clients

General Concepts

Planning a Websites

- **Purpose of the website** — The purpose of a commercial business website is related to the goal of selling products or services
- **Target Audience** — The people who use the website are known as the target audience
 - Knowing their general demographic (more importantly, behavioral) background will help to design a website appropriate for them (Smart)
- **Multiplatform Display** — A responsive design of a website must be created that provides an optimal viewing experience across a range of devices. Therefore, must be smart, personalized, responsive.

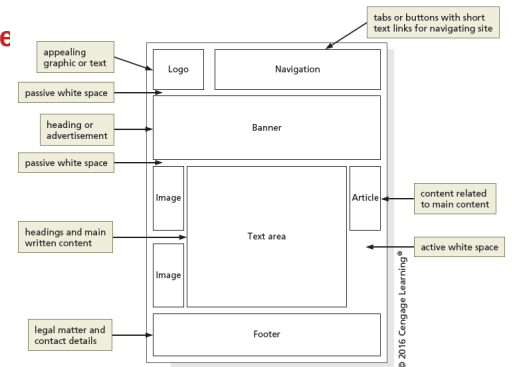
General Concepts

Wireframe

- A wireframe is a simple, visual guide that clearly identifies the location of main webpage elements
- Incorporate white space
- Active white space is an area on the page that is intentionally left blank
- Passive white space is the space between content areas

General Concepts

Wireframe



General Concepts

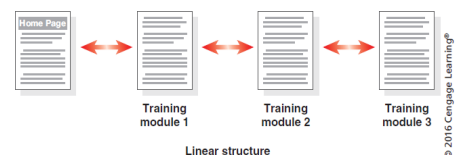
Site map

- A **site map** is a planning tool that lists or displays all the pages on a website and indicates how they are related to each other
- It shows the structure of a website
- Some website structures:
 - Linear
 - Hierarchical
 - Webbed

General Concepts

Site map

- A **linear website structure** connects webpages in a straight line – appropriate for viewing in a specific order (i.e. Training)



General Concepts

Site map

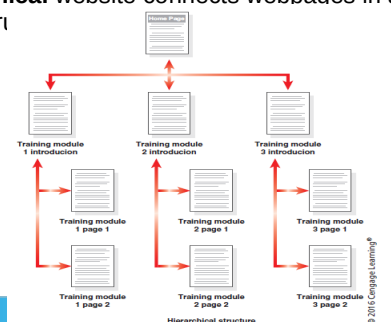
- In a variation of a linear website structure, each page can include a link to the home page of the website



General Concepts

Site map

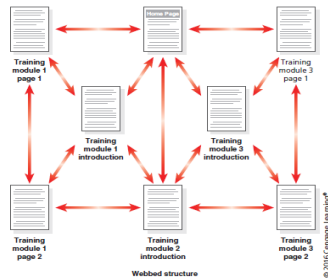
- A **hierarchical website** connects webpages in a treelike structure



General Concepts

Site map

- A **webbed** website structure has no set organization



General Concepts

Graphics

- Graphics add visual appeal to a webpage and enhance the visitor's perception of the products and services



General Concepts

Navigation

- The navigation of a website should be clear and concise
- Each webpage should have a designated navigation area with links to other pages in the site
- The navigation area should be prominent and easy to use

General Concepts

Typography

- The use of effective typography, or fonts and font styles, enhances the visual appeal of a website
- Typography also should promote the purpose and goal of the website

General Concepts

Colors

- The combination of colors contributes to the appeal and legibility of the website
- Aim to strike a balance among the background color, text color, and the color that represents a brand
- Colors convey meanings

Common Color Meanings	
Color	Common Meaning
Red	Love, romance, anger, energy
Blue	Trust, loyalty, integrity, honesty, dependability
Green	Freshness, friendliness, health, safety, strength
Yellow	Warmth, cheer, joy, excitement, humor
Orange	Energy, warmth, health
Brown	Nature, wholesomeness, simplicity, friendliness
Black	Elegance, tradition, sophistication, formality
White	Purity, honesty, sincerity, cleanliness

General Concepts

Accessibility

- A web designer should create pages for viewing by a diverse audience, including people with physical impairments and global users
 - Consider users with visual, auditory, motor, and cognitive disabilities
 - www.section508.gov
- The **World Wide Web Consortium (W3C)** develops and maintains web standards, language specifications, and accessibility recommendations.

General Concepts

Planning Checklist

- Navigation, typography, color, and accessibility are the basic web page design criteria to consider when developing a website
- A sophisticated website requires additional design considerations and research of the business, its competition, and a complete business analysis

General Concepts

Planning Checklist

Checklist for Planning a Website	
Topic	Web Designer Questions
Purpose of the website	What is the purpose and goal of the website? What is the organization's mission statement?
Target audience	Describe the target audience (age, gender, demographics). What information is most pertinent to the users?
Multiplatform display	Will you design for display on multiple platforms or focus only on a desktop or mobile design?
Site map	How many webpages will be included in the website? How will the webpages be organized? What type of website structure is appropriate for the content?
Wireframe	What features will be displayed on each webpage?
Graphics	What graphics will you use on the website?
Color	What colors will you use within the site to enhance the purpose and brand?
Typography	What font styles will you use within the website?
Accessibility	How will the website accommodate people with disabilities?

Basics of HTML

HTML

- Webpages are created using Hypertext Markup Language (HTML), which is an authoring language used to create documents for the web
- HTML consists of a set of special instructions called tags to define the structure and layout of content in a webpage
- The HTML tags define or “mark up” the content on the webpage, due to which it is considered a markup language rather than a traditional programming language

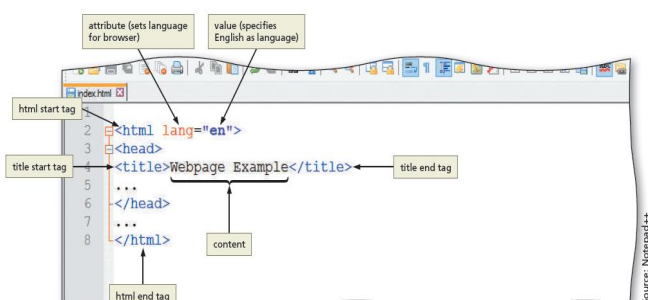
Basics of HTML

HTML Elements and Attributes

- A webpage is a text file that contains both content and HTML tags and is saved as an HTML document
- An **HTML element** consists of everything from the start tag to the end tag
 - `<html> </html>`
 - `<p></p>`
- HTML elements can be enhanced by using **attributes**, which define additional characteristics, or properties, of an element
 - ``

Basics of HTML

HTML Elements and Attributes



Basics of HTML

HTML Elements and Attributes

- HTML combines tags and descriptive attributes that define how a document should appear in a web browser
- HTML elements include headings, paragraphs, hyperlinks, lists, and images
- HTML elements have a start tag and an end tag and follow the same rules, or syntax

Basics of HTML

HTML Elements and Attributes

- HTML elements are called paired tags and use the syntax `<start tag> content </end tag>`, which has the following meaning:
 - HTML elements begin with a start tag, or opening tag, such as `<title>`
 - HTML elements finish with an end tag, or closing tag, such as `</title>`
 - Content is inserted between the start and end tags

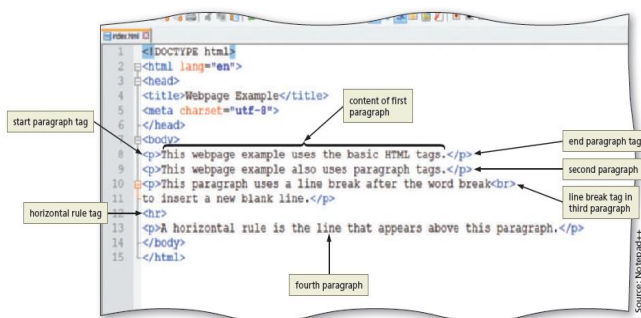
Basics of HTML

HTML Elements and Attributes

- Some HTML elements are void of content. They are called empty, or void, tags
- Examples of empty tags are `
` for a line break and `<hr>` for a horizontal line, or rule
- The syntax for empty tags is `<tag>`
 - But not always

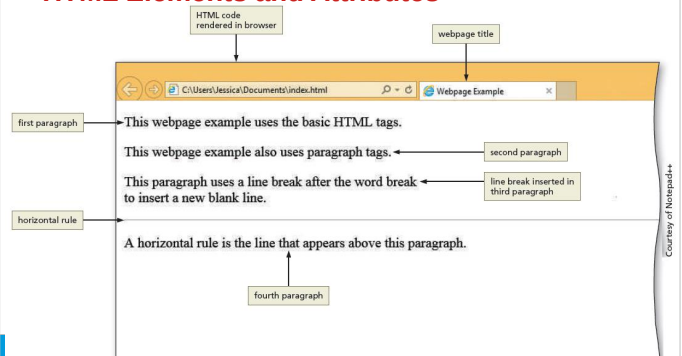
Basics of HTML

HTML Elements and Attributes



Basics of HTML

HTML Elements and Attributes



Basics of HTML

Technologies related to HTML

- XML — The W3C introduced XML (Extensible Markup Language) in 1998 to exchange and transport data
- XHTML — (Extensible Hypertext Markup language) is a rewritten version of HTML using XML and was developed in 2000 and is accepted on mobile device platforms
- DHTML — DHTML (Dynamic Hypertext Markup Language) is a term that refers to a combination of web technologies that enabled the creation of interactive and animated documents.
 - eg. HTML, CSS, Javascript

Basics of HTML

Some programming Languages used on Web design

- **JavaScript** — It is a popular **client-side scripting** language used to create interactivity within a web browser
 - The web pages that contain JavaScript are named with an `.htm` or `.html` extension
 - Not to be confused with a file with just JavaScript code with a `.js` extension
 - Not to be confused with Java – a full function programming language
- **jQuery** — It is a library of JavaScript programs designed for easy integration onto a webpage
 - It makes it easy for web developers to add JavaScript to a webpage

Basics of HTML

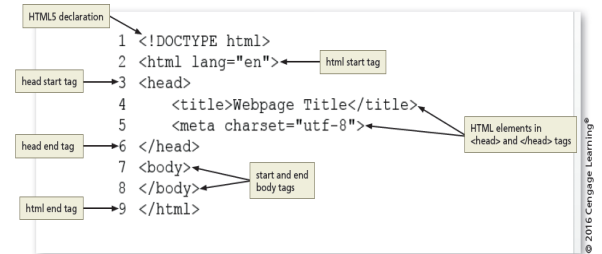
Some programming Languages used on Web design

- **PHP (Hypertext Preprocessor)** — It is an open-source **server-side scripting** language used for common tasks such as writing to or querying a database located on a central server
- Pages that contain PHP scripts must have file names that end with the file extension .php
- **This course will concentrate only on HTML and CSS**

Basics of HTML

A basic Webpage

- Every HTML webpage includes the basic HTML tags



Web Design Tools

- Webpages can be created using HTML with a simple text editor, such as Notepad, Notepad++, Sublime, Programmer's Notepad, TextEdit, and TextWrangler
- A **text editor** is a program that allows one to enter, change, save, and print text, which includes HTML tags
- An **HTML editor** is a program that provides basic text-editing functions, and advanced features such as color-coding for various HTML tags, menus to insert HTML tags, and a spelling checker
- A **webserver** software may be required in your computer.
- Other advanced tools may be used.