

INFORMATION AND COMMUNICATION TECHNOLOGY

O' Level Web Design Notes

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INTRODUCTION TO WEB DESIGN

WEB DESIGN

Web designing is the process of planning and creating a website. It is also called web authoring. Text, images, digital media and interactive elements are used by web designers to produce the page seen on the web browser

Web Design and Publishing is the process of planning, creating, manipulating, saving and uploading hyperlinked html documents (web pages) to a computer network so that they can be viewed via web browsers.

Web Design software Examples

There are lots of good web design software on the market today.

- | | |
|--|--|
| 1) Note Pad | 2) Microsoft FrontPage 2003 |
| 3) Adobe Dreamweaver CS4 | 4) WebPlus X4 (Now owned by Microsoft) |
| 5) Microsoft Expression Web 3.0 & Studio 3 | 6) Namo WebEditor 8 & Professional |
| 7) Sothink DHTML Menu 9 & Tree Menu 2 | 8) Antenna Web Design Studio 3 |
| 9) AllWebMenus PRO 5 | 10) PhotonFX Easy Website Pro 4 |

Terminologies

- **A website.** Is a collection of related web pages. **A webpage.** Is a document on a website, which can contain text, pictures, sound, and video (multimedia). It is also defined as a document available on the web that is created using HTML and viewed with in a web browser. Each webpage has a unique address called a URL.
- **A web designing program** is a computer program used to create, edit and update web pages and websites. Examples include; HTML Editor, Web Studio 5.0, HTML-Kit Tools, Web Easy Professional, Dreamweaver, Microsoft Desktop Publisher, Microsoft FrontPage, among others.
- **A web browser.** Is an application program for accessing and viewing web pages.
- **Hyperlink** is a text or graphic on a webpage that when clicked on allows a user to quickly navigate from one document or website to another.
- **Home page** is a welcome page that identifies the website and contains links to other pages of the site.
- **A Tag** is an html command. Tags are used to control the content and appearance of an html document.
- **A web designer/webmaster** is a person responsible for developing web pages and maintaining a website.
- **Web publishing** is the development and maintenance of websites, i.e. availing the website on the World Wide Web. This process involves; web designing, website hosting and website content management.
- **Web hosting** is a service that allows individuals and organisations to have their own websites accommodated on a particular web server from which they are accessed by others on the World Wide Web.

Bookmark

A bookmark is an anchor tag that defines and links to a specific location in an HTML document. Bookmarks are useful when you have long pages that are divided into logical sections, or when you want to jump from one central list of links to multiple locations on a page.

File Transfer Protocol (FTP)

The protocol used for copying files to and from remote computer systems on a network using TCP/IP, such as the Internet.

HTML

(Hypertext Markup Language) A tagging system used to code documents so that they can be published on the World Wide Web and viewed with a browser

HTTP (Hypertext Transfer Protocol) The client/server protocol used to access information on the World Wide Web.

HTTPS

(Hypertext Transfer Protocol Secure) is a combination of HTTP with the SSL/TLS protocol to provide encrypted communication and secure identification of a network web server. HTTPS connections are often

used for payment transactions on the World Wide Web and for sensitive transactions in corporate information systems.

HYPERLINK

The text or graphic that users click on to go to a file, a location in a file, an Internet or intranet site, page, location, and so on. Hypertext is text with hyperlinks.

INDEX PAGE

The home page or URL of a website, usually serving as an introduction and having links to other pages in the website.

DOMAIN NAME

The unique name that identifies an Internet site. A domain name is an identification label that defines a dominion of control on the Internet, based on the Domain Name System (DNS).

IP ADDRESS

An (Internet Protocol address) is a numerical label that is assigned to any device participating in a computer network that uses the Internet Protocol for communication between its nodes.

JPEG / JPG

(Joint Photographic Experts Group) A graphics format used for photos and other graphics with more than 256 colors.

PAGE TITLE

The text that is displayed on the page banner of a Web page and in the title bar of a Web browser.

URL

(Uniform resource locator) The alphanumeric address that Web visitors use to locate your Web site on the World Wide Web.

TAGS

HTML tags are codes, of keyword elements enclosed by the lesser than (<) and greater than (>) brackets, which give commands to a browser. eg <u> is an HTML tag that tells the browser to underline text on the webpage.

WEB AUTHORIZING SOFTWARE

A Web site development program that allows Web pages to be visually created like a desktop publishing program. It generates the required HTML code for the pages and is able to switch back and forth (in varying degrees) between the page layout and the HTML.

Web Browser

Is application software which enables a user to display and interact with text, images, and other information on a Web page (Examples: Opera, Google Chrome, Mozilla Firefox, Internet Explorer, Netscape, etc)

WEB MAILPROVIDER

A hosting company that primarily provides end users access to internet services such as e-mail.

WEB SERVER

A computer that stores and delivers (serves up) websites and their related files for viewing on the Internet.

WEBMASTER

A person who creates and manages the information and content, organizes and maintains of a Web site

WEBSITE

A collection of related or hyperlinked web pages

WYSIWYG

(What You See is What You Get) implies a user interface that allows the user to view something very similar to the end result while the document is being created.

Features of web authoring software

These are the basic features common to the working environment of most popular web authoring software programs.

1. Views

- ▶ Most web authoring software provides multiple views of the web page you're working on.

- ▶ Standard, normal, or design view - This is typically the default view, which is a blank screen on which you type, paste, or insert content. It uses the WYSIWYG principle. This is very similar to a word processor screen.
- ▶ Code view - Allows you to view and work directly with the HTML code created for you by the web authoring software.
- ▶ Split - Both of the above views are displayed simultaneously in separate windows.

Creating Headings and Subheadings

- ▶ In Normal or Design View, Web authoring software. A text formatting toolbar typically includes buttons for bolding and italicizing text, and probably additionally includes some means of identifying a heading or subheading.

3. Inserting Links

- ▶ In web authoring software products, you add a link to a document by selecting *Insert* from the menu, then *Link* or *Hyperlink*. Most web authoring software tools additionally provide a button or icon that allows you to quickly insert a link.

Inserting Images

- ▶ In many web authoring software products, you add an image to a document by selecting *Insert* from the menu, then *Image* or *Picture*.
- ▶ After you have inserted the image into your webpage, you can edit its attributes in a Properties dialog box or panel. You can change the image's height and width, put a border around it, make it into a link, and add alternate text for users who can't see the image

Demerit of web authoring software

Web authoring software is detrimental to a designer's HTML programming skills, as users rarely need to actually apply those skills to their design projects.

Instead, web authoring software users simply design web pages much like they would design a word processing or desktop publishing document, dragging items into the desired location instead of using HTML commands to properly position the image.

For this reason, seasoned web design professionals insist on designing their pages and sites exclusively in text-based HTML, some using simple word processing applications, rather than building a reliance on a graphical interface.

Features and Qualities of a Good Website

- ▶ **The web must have a home page.** This means a page at the top of any tiered structure or at the centre of a web you design on paper.
- ▶ You should name the home page Index.htm (or Index.html) in line with web server protocol.
- ▶ Should not have too much on one page. It's better to use lots of pages with a small amount of information on each.
- ▶ Should have links to other areas on all pages for easy navigation through the website
- ▶ Should load quickly
- ▶ Should have a title and brief summary about the page
- ▶ Should have date of last Update
- ▶ Page (file) names should be eight characters or less. Although many servers and systems now support long filenames, it isn't universal by any means.
- ▶ Should have a feedback page or a link to the webmaster who will be the first contact for your website's visitors
- ▶ Should have Simplicity = Elegance

QUALITIES OF A GOOD WEBSITE

1. It should be easy to navigate with well arranged, easy to see navigation buttons.
2. It should have a simple and clear layout of sections and content to make it user friendly
3. It must be pleasing to the eye to encourage visitors to the site
4. It should have readable font style which is eye pleasing so that visitors can read the content easily
5. It should load quickly to avoid disappointing potential visitors to the site. Websites sites with a lot of graphics load slowly, so use graphics wisely to ensure that you do not affect loading time.
6. It should be interactive with contact information, possibility of email, online communication forum.
7. It should have active links which enable visitors to access other references

8. It should be frequently updated and must have a date of last update
9. The web pages must have webpage titles and brief summaries about the page or site

Importance of a website

- ▶ Making of a website favors publishing of data and information in a bid to create awareness about something on the internet.
- ▶ A website is an avenue for sharing knowledge through intercontinental interaction for example through teleconferencing and discussion boards.
- ▶ Website development enhances skill building such as writing, editing, layout and design; providing motivation and pride of ownership

ADVANTAGES/IMPORTANCES OF A WEBSITE/WEB PUBLISHING

1. It is cheaper compared to other means of publishing information like newspapers
2. Information can be accessed at all the time any where unlike paper files
3. Information can easily be updated and made available
4. It allows easy sharing of knowledge and information
5. It enhances skills building such as writing, editing and designing
6. Information is not limited by space like other means of publication such as newspapers

DISADVANTAGES OF A WEBSITE

1. It is expensive to set up a website, i.e. requires development costs, annual or monthly subscription
2. Maintenance and updating a website requires technical skills of a web designer
3. Violation of copyright law where impersonators log into, edit and update other people's websites
4. Information on a website is limited to only internet literates and those who can meet internet costs

Limitations of a website

- ▶ Expenses: Websites are not easy to setup and maintain due to annual subscription to ISPs or web hosts
- ▶ Timely updating issues: Information keeps on changing and this requires constant revision and effecting changes as necessary.
- ▶ Copyright issues: It is a crime to publish information from copyrighted sources without permission from the original authors.

Considerations for Webmasters

Webmasters should have the following points in mind when designing a website:

- ▶ They should be original and avoid violating copyright laws.
- ▶ The web pages should have valuable content for public consumption, tailored for consumer requirements
- ▶ They should take into account the type of browsers the clients have: some versions may not be able to display advanced webpage elements
- ▶ They should use minimum graphics
- ▶ They should limit the use of frames

Explain why a school should have a web-site. (20 marks)

To score the 20 marks on an essay question, you have to lay out your answer in this way:

- ▶ Give an introductory paragraph and define the key words in the question
- ▶ Give each point in paragraph form and be positive. Phrase your language in inclination to question.
- ▶ Summarize/conclude your essay.

Explain why a school should have a web-site

A website is a collection of hyperlinked html documents (web pages) with related information, meant to creating awareness about something on the internet.

In a school setting, there is a lot of awareness required between the administration, staff, students and parents.

Below are the major reasons why a school should have a website:

1. Making of a website quickens the publishing of information to the community such as abrupt announcements, circulars, results, etc. Once uploaded, it will be already accessible to the targeted readers

Explain why a school should have a web-site

2. Through a website, the school can get feedbacks from the community through online user comments and questions.
 3. If students are involved in the Website development process, this enhances skill building such as writing, editing, layout and design.
 4. A school website provides motivation and pride of ownership. This can be evidenced through use of customized email. Eg xxx@jinjacol.sc.ug instead of xxx@yahoo.com
 5. Information listed on a school website removes doubt. Information such as school fees, and Everything presented at the site appears in a positive light, as compared to information from other sites about the school which may be false.
 6. If a school has a website, they can use the web mail service to send parents and other stakeholders items such as newsletters, reminders e.t.c
 7. A website increases ways of contact. Once you have a website you can list your website address on your business cards, report cards, and even the school signpost.
 8. Internet today is being used 24 / 7 and is accessible from every house. People are becoming highly dependent on the internet. By having a web presence, the market of the school expands your significantly.
 9. A school website helps students and parents to make a wise academic choice after using the vast quantities of information about a given college or university
- In conclusion**, a well-designed website is just as important a public relations tool as school catalogs and brochures. If a school has web presence, it can be listed in web search engines and know worldwide. Today everything you need is achieved at the click of a button.

Introduction to html coding

HTML tags, are enclosed by the (<) and (>) angle brackets.

The opening bracket is followed by an element, which is a browser command, and ends with the closing bracket. An element may also be followed by attributes, which are words describing the properties of the element, and further instruct the browser.

Attributes are separated by a space and followed by an equal (=) sign.

The value follows the equal sign and is at times enclosed in quotes.

For examples: in font is the element, size is the attribute and 2 is the value.

In "images/figure_1.gif" is the value of the SRC attribute of the IMG element.

Activity 1: Basic HTML Document Code Structure

```
<html>
<head>
<title>Title goes here </title>
</head>
<body>
This area will contain everything that will be visible through a web browser, such as text and graphics.
</body>
</html>
```

Procedure:

- Launch notepad through Start/All Programs/Accessories
- Type the above codes
- Save as basic.html on desktop.
- Open the saved html document with a browser.

BASIC HTML DOCUMENT CODE STRUCTURE EXPLANATION

<head> - Contains information about the page such as the TITLE, META tags for proper Search Engine indexing, STYLE tags, which determine the page layout, and JavaScript coding for special effects.

<title> - The TITLE of your page. This will be visible in the title bar of the viewers' browser.

</title> - Closes the HTML <title> tag.

</head> - Closes the HTML <head> tag.

<body> - This is where you will begin writing your document and placing your HTML codes.

</body> - Closes the HTML <body> tag.

</html> - Closes the <html> tag.

Headers

- Headers are a simple form of text formatting that vary text size based on the header's level. HTML has six levels of headers,
- Headers appear in a larger font than normal text and often are used to define new sections in a page. The general syntax for a header tag is:<Hn>Heading Text</Hn>

Activity 2 Note

- NB: The <CENTER> element causes all the material between its <CENTER> and </CENTER> tags to be centered horizontally in the browser window.
- The code line
- <!-- Centers everything in the CENTER element --> is a comment.
- Comments list other useful information that helps other programmers understand the code, and assist in debugging
- Comments in HTML always begin with <!-- and end with -->. The browser ignores any text and/or tags placed inside a comment.

Formatting Text with

- The tag allows you to specify the color, the size, and even the font to be used for the text on your page. The syntax for the tag is:
Formatted Text
- The font size supported by browsers is between 1 and 7.
A color value is a numerical expression that exactly describes a color's appearance.
- *Any color can be thought of as a combination* of three primary colors: red, green, and blue. In the RGB triplet.
- By varying the intensity of each primary color, you can create any color and any shade of color that you want.

Activity: Formatting text with

- <HTML> <!--Formatting text with -->
- <HEAD><TITLE>Format Text</TITLE></HEAD>
- <BODY BGCOLOR="#FFFF00" TEXT="red">
- <H2 ALIGN="center"><U>Welcome to Our Web Site!</U></H2>
- <P>We have designed this site to teach about
- the wonders of HTML. We
- have been using HTML since <U>version 2.0</U>, and we enjoy
- the features that have been added recently.<FONT COLOR="blue" SIZE="+1"
- FACE="Helvetica"> It seems only a short time ago that we read our first HTML
- book. Soon you will know about many
- of the great new features of <U>HTML 4.0</U>
- <CENTER>Have Fun with the Site!</CENTER>
- </BODY>
- </HTML>

Hypertext Links

- The most important capability of HTML is its ability to create hyperlinks
- A hypertext document contains links that you can select, usually by clicking a mouse, to instantly view another topic or document, often
- Links are inserted using the anchor element <A>. To specify the address you would like to link to, insert the *HREF attribute*
- into the anchor tag as
- The address is the location to which you would like the anchoring object to be linked. This location can be any accessible page, file or e-mail URL. called the *destination* of the link.

Activity: Introduction to Hyperlinks

- <HTML> <!--Introduction to Hyperlinks -->
- <HEAD><TITLE>Hyperlinks example</TITLE></HEAD>
- <BODY>
- <CENTER>
- <H1>My Favorite Internet Service</H1>
- <HR>
- <H3>Click on the Internet Service address to go to that page.</H3>
- <HR WIDTH="50%" SIZE=4>
- <P>Search Engine: Yahoo!

- <P>FTP Server: Microsoft FTP server
- <P>Gopher Server: Wisconsin Gopher
- <P>Usenet: NewsServer Club
- </CENTER>
- <P><HR WIDTH="25%" SIZE=3 ALIGN="left">
- Back Home page

- Contact me: weli@umflint.edu
- </BODY>

</HTML>

Activity: Inserting Images

- <HTML> <!-- Adding Images: put images background.gif and name.jpg into your web folder -->
- <HEAD><TITLE>Images Example</TITLE></HEAD>
- <BODY BACKGROUND="background.gif">
- <CENTER>
-
- <P><IMG SRC="aboutme.gif" BORDER=0 WIDTH=117 HEIGHT=45
- ALT="About me page">
- <P><IMG SRC="resume.gif" BORDER=0 WIDTH=117 HEIGHT=45
- ALT="Resume page">
- <P><IMG SRC="contactme.gif" BORDER=0 WIDTH=117
- HEIGHT=45 ALT="E-mail me">
- </CENTER>
- </BODY>
- </HTML>

Activity: Ordered Lists

- <HTML> <!-- Demonstration of Ordered Lists -->
- <HEAD><TITLE>Ordered List</TITLE></HEAD>
- <BODY>
- <H2 ALIGN="center">Web Site Outline</H2>
- <OL START=5>
- Home page
- Links page
- <OL TYPE="I">
- Links to search engines
- Links to information sites
- <OL TYPE="i">
- News sites
- <OL TYPE="A">
- TV based
- <OL TYPE="a">
- CNN
- BBC
-
- Text based
- <OL TYPE="a">
- New York Times
- Washington Post
-
-
- Stock sites
-
- Links to "fun" site
-
- Feedback page
- Contact page
- HTML example page
-
- </BODY></HTML>

Activity: Unordered Lists

- <HTML> <!-- Demonstration of Unordered Lists -->

- <HEAD><TITLE>Unordered List</TITLE></HEAD>
- <BODY>
- <H2 ALIGN="center">Web Site Outline</H2>
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- Home page
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- Links to search engines
- Links to information sites
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- News sites
-
- TV based
-
- CNN
- BBC
-
- Text based
-
- New York Times
- Washington Post
-
-
- Stock sites
-
- Links to "fun" site
-
- Feedback page
- Contact page
- HTML example page
-
- </BODY></HTML>

Activity: Tables

- <HEAD><TITLE>Tables</TITLE></HEAD>
- <BODY>
- <H2>Personal Computer Processors</H2>
-
- Text Table
- <PRE>
- Name Manufacturer Clock Speed Number of Transistors
- =====
- Pentium 4 Intel 1.4 GHz 42 million
- Pentium 3 Intel 400 MHz 28 million
- Athlon AMD 1.2 GHz 35 million
- PowerPC Motorola 500 MHz 50 million
- </PRE>
- Graphical Table
- <TABLE BORDER=1>
- <TR><TH>Name
- <TH>Manufacturer
- <TH>Clock Speed
- <TH>Number of Transistors
- <TR><TD>Pentium 4
- <TD>Intel
- <TD>1.4 GHz
- <TD>42 Million
- <TR><TD>Pentium 3
- <TD>Intel
- <TD>400 MHz
- <TD>28 million

- <TR><TD>Athlon
- <TD>AMD
- <TD>1.2 GHz
- <TD>35 million
- <TR><TD>PowerPC
- <TD>Motorola
- <TD>500 MHz
- <TD>50 million
- </TABLE>
-
- </BODY></HTML>

Creating a Frame Layout

- Frame layout is defined using the <FRAMESET> tag. The general syntax for the <FRAMESET> tag in your HTML file is:
 - <HTML>
 - <HEAD><TITLE>Page Title</TITLE></HEAD>
 - <FRAMESET>
 - Frame and nested FRAMESET entries
 - </FRAMESET></HTML>
- Notice that this code does not include the <BODY> tag. Upon reflection, the reason for this should be clear: a page with
 - frames displays the content of other pages. There is no page body to speak of.

NB Starting Microsoft FrontPage 2003

- **NB** A shared border is a region on a web page that is common to one or more pages in a web site.