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WEB-TECHNOLOGIES FOR FRONTPAGE USERS WITH BACKEND DATABASES.

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Abstract: Many people now turn to the Web to find information in their daily lives, rather than using the telephone or other traditional means. The Web allows information to be disseminated with speed, accuracy and detail. Web addresses are now included in most businesses' radio, television and print ads, offering customers a more personalized and specific method of information access to assist in learning and decision making. It is the Web designer's responsibility to convey the appropriate message to recipients; thus the concepts of design are as important as the content itself. For long-time Web users, the transformation of Web design is clear. Early sites consisted of lengthy, plain-textual content. This trend evolved into developed design practices that rival other ad media such as television and print. To be competitive, people in technical positions (and those who support them) must be familiar with Web design concepts.

Keywords: W3C, Web Server, Web-Client, Frontend, Backend, Web-Site, Web-Browser

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INTRODUCTION

There are many Web technologies, from simple to complex, and explaining each in detail is beyond the scope of this article. However, to help you get started with developing your own Web sites, beyond simple WYSIWYG designing of Web pages in FrontPage, this provides brief definitions of the major Web technologies along with links to sites where you can find more information, tutorials, and reference documentation.

Most Web site designers approach development from a self-reflective point of view. They are interested in presenting themselves to a mass audience with the known metaphors of mass advertising. However, the Internet offers an alternative: the capability for one-to-one relationships. Users of Web sites respond better to information and product offerings that are tailored to their specific needs. Later in this course, you will examine the tools of the Web designer. You should understand that by its nature, the Internet is a medium that enables the user to decide what information to access and when to access it. This fact makes the Internet a one-to-one medium as opposed to a broadcast medium. Thus, the concepts and applications of mass media are not necessarily valid for the Internet. Mass media is mostly passive. Its goal is to create in the viewer or reader enough interest that eventually he or she will translate that interest to a desired transaction. In essence, the act of reading a magazine or watching a television program is not inherently transactional; an interruption exists between the act of reading or viewing and the act of transaction. The only transaction required from readers or viewers is to read a particular book or magazine, or watch a TV program.

A. W3C

The World Wide Web Consortium (W3C) provides standards, specifications, and guidelines for technologies that are commonly used on the Internet [4]. Many major software companies, including Microsoft, are members of the W3C and work together to develop these standards and technologies, which enable Web developers, Web designers, and software companies to develop Web sites and Web-based products.
B. Web-Server

A Web server is the computer on which you host your Web site. It is connected directly to the Internet and sends hosted Web pages to the client using the Hypertext Transfer Protocol (HTTP). If you host your FrontPage site through an Internet service provider (ISP), Web presence provider (WPP), or Web host provider (WHP), you may have access to several different types of Web servers [3]. The most common Web servers available are Windows-based servers running Microsoft Internet Information Services (IIS).

C. Web-Client

The client, or user, side of the Web. It typically refers to the Web browser in the user's machine. It may also refer to plug-ins and helper applications that enhance the browser to support special services from the site.

D. Frontend

Front-end the terms used to characterize program interfaces and services relative to the initial user of these interfaces and services. A "front-end" application is one that application users interact with directly.

E. Backend

A "back-end" application or program serves indirectly in support of the front-end services, usually by being closer to the required resource or having the capability to communicate with the required resource.

F. Web Site

Web Site is a set of related web pages typically served from a single web domain. A website is hosted on at least one web server, accessible via a network such as the Internet or a private local area network through an Internet address known as a uniform resource locator (URL). All publicly accessible websites collectively constitute the World Wide Web.

G. Web Browser

Web browser, a browser is a software application used to locate, retrieve and display content on the World Wide Web, including Web pages, images, video and other files.

H. Web Contains
We are having two types of Web Contains

1) Dynamic websites have frequently changing content or interact with the visitor. Dynamic websites typically use server side programming to generate HTML code as requested.

2) Static websites are written in pure HTML perhaps with a bit of JavaScript and only change when manually updated.

MATERIAL & METHODS

1) Frontend:

a) Markup Languages and Technologies

![Web Content Diagram]

Fig: - Interface between Server & Client

1) HTML

HTML stands for Hypertext Markup Language. HTML is the primary markup language that is used for Web pages. HTML tells the browser what to display on a page. For example, it specifies text, images, and other objects and can also specify the appearance of text, such as bold or italic text.

2) CSS

CSS stands for cascading style sheets. Cascading style sheets provide the ability to change the appearance of text (such as fonts, colors, spacing) on Web pages. Using CSS, you can also position elements on the page, make certain elements hidden, or change the appearance of the browser, such as changing the color of scroll bars in Microsoft Internet Explorer.
3) XML

XML stands for Extensible Markup Language. Similar to HTML, XML is a markup language designed for the Internet [7]. However, unlike HTML, which was designed to define formatting of Web pages, XML was designed to describe data. You can use XML to develop custom markup languages.

A. b) Programming Languages and Technologies

Programming languages enable you to create custom applications and add functionality that is not already part of an application. On the Internet, programming languages enable you to create visual animation, respond to user actions, validate forms, interact with databases, and provide e-commerce solutions.

1) JavaScript (JScript)

JavaScript is an interpreted scripting language commonly used on the Internet for creating Web pages that respond to user actions, such as when a user moves a mouse pointer over an image or clicks a form button. Combined with HTML and CSS, JavaScript allows you to create Dynamic HTML pages.

JavaScript is generally used for client-side scripting; as a result, users can easily view JavaScript code along with the HTML code in a page.

VBScript

VBScripts is an interpreted scripting language that is a subset of Microsoft Visual Basic. As a result, the structure and syntax are similar to Visual Basic, making VBScript an easy scripting language to learn. Although VBScript can be used for client-side scripting in Internet Explorer, most other browsers do not include a VBScript interpreter. Therefore, VBScript is most commonly used in server-side scripting for Web pages that use classic ASP.

2) C#

C# (pronounced "see sharp") is a compiled, object-oriented programming language that is commonly used for Web applications that leverage the Microsoft .NET Framework. C# is derived from the C programming language and is used for server-side processing of ASP.NET Web applications.
3) **Visual Basic .NET**

Visual Basic .NET is the next generation of the Visual Basic programming language. Visual Basic .NET is a compiled, object-oriented language that leverages the .NET Framework for developing powerful ASP.NET Web applications. Visual Basic .NET uses the same syntax as earlier versions of Visual Basic but also leverages the namespaces and classes that are part of the .NET Framework. As with VBScript and earlier versions of Visual Basic, Visual Basic .NET is a relatively easy programming language to learn.

4) **Perl**

Perl is an interpreted scripting language that can also be compiled into executable files. The Perl language is similar to the C programming language. Perl scripting is often used for CGI programming on UNIX-based servers, although Perl can also run on Windows-based servers.

5) **Java**

Java is a compiled object-oriented programming language that was designed for use on the Internet. In 1995, Sun Microsystems designed the Java programming language and introduced it to Web developers as a way to include animation and dynamic elements in Web pages. Java syntax is similar to C++ but is considered easier to learn.

6) **ActiveX Controls**

ActiveX controls require that a compiled file be downloaded and installed on the client machine. ActiveX controls can be installed and run only on Windows-based computers, and Internet Explorer is the only browser that natively supports ActiveX controls. In addition, because ActiveX controls are installed on the client computer, browsers that support ActiveX controls generally allow users to accept or deny installing ActiveX controls, which means that if an ActiveX control is not installed on a client machine, the page that contains it often does not function as expected.

7) **ASP**

ASP is an abbreviation for Active Server Pages. ASP is a server-side scripting technology that you can use to create dynamic Web pages. ASP code is generally embedded in the HTML within a page, and HTML pages that contain ASP have an .asp file name extension; however, because processing is done on the server, the ASP code is not sent to the browser, and visitors to your site never see your ASP code. Client computers receive only the resulting HTML.
8) **ASP.NET**

ASP.NET is the next generation of server-side processing for ASP programming. You can write ASP.NET code in C#, Visual Basic .NET, or any language that is supported by the .NET Framework [4]. Because ASP.NET is part of the .NET Framework, you can develop ASP.NET applications that utilize any of the namespaces and classes in the .NET Framework.

9) **CGI**

CGI stands for Common Gateway Interface. Similar to ASP and PHP, CGI is used for server-side processing for Web applications. Because CGI is designed to be server-agnostic, you can develop CGI applications that run on Windows, UNIX, Macintosh, or other server operating systems [4]. You can write CGI applications in C, C++, Java, and Perl.

2) Backend

**B. Databases**

Databases allow you to store information for easy retrieval. On the Internet, databases are used to store users' logon information, product information, and customers' orders, among other things. There are almost as many database products as there are reasons and ways to use databases.

![Fig :- Database](image)

**Access**

Microsoft Access is an easy database application with which to work and provides powerful database capabilities. Because Access databases are file-based rather than server-based, all you need to work with Access databases is the database file itself, which has a file name extension of .mdb. You can easily transfer this file to the hosting Web server, and access the data inside the file by using ASP, PHP, or the Database Interface Wizard in FrontPage.
1) **SQL Server**

Microsoft SQL Server is a secure, robust, and scalable database application that can grow with the needs of e-commerce and financial Web applications. If you choose to use the SQL Server database platform, you need SQL Server installed on the host Web server. If you do not control your host Web server, you need to verify that your ISP provides SQL Server database services.

2) **MySQL**

MySQL is an open-source relational database management system that provides powerful and reliable database management for Web applications. MySQL can run on UNIX, Linux, and Windows-based Web servers. PHP and MySQL are often used together to develop Web applications and perform server-side database processing. Because MySQL is an open-source software application, anyone can download and install it.

3) **Oracle Database**

Oracle Database is a powerful relational database management system developed by. Oracle, like SQL Server, is a database application for large, transaction-based and e-commerce Web applications.

**Web Design Concepts**

Web design concepts are always in evolution. It is important to remember that the Web is not a static medium, like print media. Therefore, the rules and concept are in constant fluctuation. One of the most common misconceptions about Web design is that a good site must dazzle the user with a multimedia experience, and that the content of the site is of secondary importance. This assumption is false. As a Web designer, you want the user to have a satisfying experience, but dazzling the users is not your goal.

**New Technologies**

Soon after you learn the different tools available for designing Web sites; you will need to evaluate those tools for their abilities to function at the next level. Both Microsoft FrontPage and Macromedia Dreamweaver implement Dynamic HTML (DHTML) functions that will take advantage of available technology [2]. Dynamic HTML (DHTML) a combination of scripts and HTML objects that provides Web site interactivity. We will discuss other recent technologies in this course as well, such as Cascading Style Sheets (CSS), the new browsers, the Extensible Markup Language (XML), and the use of JavaScript in your Web design for further functionality.
C. Advantages of Web Applications

- Zero install - all PCs have a browser.
- Reduce business costs - less time spent talking to customers over the phone; eliminate printed materials
- Allow users to update their own details.
- Centralized data is secure and easy to backup.
- Quick and easy updates.
- Reach anybody, anywhere in the world.
- Available 24 hours a day, 7 days a week.
- Low spec PCs or smart phones can be used.
- Online training can be completed at user's own time and pace.
- Direct access to latest information - for Employees Where every it are located.
- Always up-to-date

D. Disadvantages of Web Applications

- Slower, as run over the internet
- Internet not always 100% available
- Interfaces often not as sophisticated
- Can take longer to develop as they are more complex
- It promotes amateurishness by invaluable contents generated by users
- It gives everyone the opportunity to complain, thus creating a community without rules
- It leads to a low quality of the actual content.
- Have to support different browsers, and different versions
- Security risks

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