Surfing the Net

Worksheet 2 Reading Material

Before you start, read the following directions.

1. Read the questions in "Domain Names" section of the other handout so you know what to look for.
2. YOU MUST read ALL the information and then answer the questions. If you just "skim" to find the answers, I will NOT accept your assignment and you will get a 0%.
3. Repeat these steps for each section of questions.
4. This worksheet should take 45-60 minutes to complete.

Domain Names

How the Web Was Born

Web Browsers

Understanding Web Addresses

How the Web Works

Domain Names

When you think of the Internet, you probably think of ".com." Just what do those three letters at the end of a World Wide Web address mean?

In order to locate online data, the web servers that hos t the information each have a unique numerical address. For example, the numerical address for the White House is 198.137.240.100. But since few people want to remember long strings of numbers, the Domain Name System (DNS) was invented. DNS, a critical part of the Internet's technical infrastructure, correlates a numerical address to a word. To access the White House website, you could type its number into the address box of your web browser. But most people prefer to use "www.whitehouse.gov." In this case, the domain name is whitehouse.gov.

The Structure of a Domain Name

A domain name always has two or more parts separated by dots and typically consists of some form of an organization's name and a three letter or more suffix. For example, the domain name for IBM is "ibm.com"; the United Nations is "un.org."

The domain name suffix is known as a generic top-level domain (gTLD) and it describes the type of organization. However in the last few years, the lines have blurred somewhat between these categories. Here are the most common top-level domains currently in use:

- .aero--For the air-transport industry
- .asia--For individuals, companies and organizations in Asia, Australia and the Pacific
- .biz--Reserved for businesses
- .com--For businesses and commercial enterprises; most companies use this extension.
- .coop--Reserved for cooperatives
- .edu--For educational institutions and universities
- .gov--Reserved for United States government agencies
- .info--For informational sites
- .int--For organizations established by international treaties
- .jobs--For employment-related sites
- .mil--For the United States military
- .mobi--For sites related to mobile devices

- .museum--For use by museums
- .name--For use by individuals
- .net--For networks; usually reserved for organizations such as Internet service providers
- .org--For non-commercial organizations
- .pro--For use by licensed professionals, such as attorneys and physicians
- .tel--For services connecting phone networks and the Internet
- .travel--For travel-related services, like airlines, hotels and agents

ICANN, the Internet Corporation for Assigned Names and Numbers, manages the Domain Name System. For the latest news, visit the ICANN website. The more popular TLDs (.com, .net, .org, .biz, .info, .name) are available to the general public for registration of domain names.

Registering a Domain Name

If a domain name is available, and provided it does not infringe on an existing trademark, anyone can register the name for a fee through domain registrars.

If you plan to register your own domain name, whether it's a .com or not, keep these tips in mind:

- The shorter the name, the better.
- The name should be easy to remember.
- It should be easy to type without making mistakes.
- Remember, the Internet is global. Ideally, a domain name will "read" in a language other than English.

Country Codes

In addition to the generic top-level domains, 244 national top-level domains (NTLD) were established for countries and territories, for example:

- .au - Australia
- .ca - Canada
- .fr - France
- .de - Germany
- .in - India
- .uk - United Kingdom

Here's a list of national top-level domains.

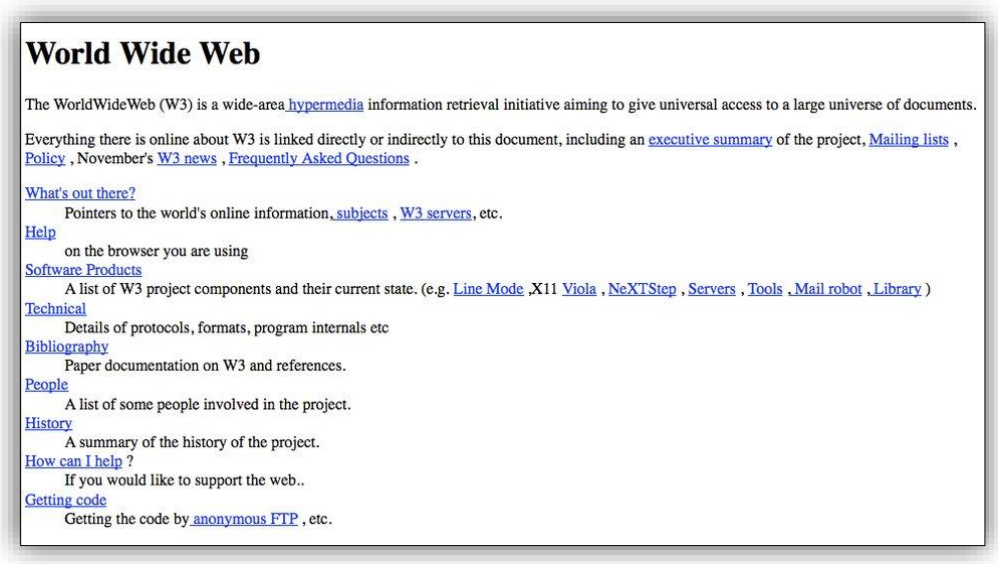
How the Web was Born

The World Wide Web was originally developed in 1990 at CERN, the European Laboratory for Particle Physics. The original idea came from a young computer scientist, Tim Berners-Lee. It's now managed by The World Wide Web Consortium.

The WWW Consortium, funded by a large number of corporate members, including AT&T;, Adobe Systems, Inc., Microsoft Corporation and Sun Microsystems, Inc., promotes the growth of the Web by developing technical specifications and reference software made freely available to everyone. The Consortium is run by MIT with INRIA (The French National Institute for Research in Computer Science) acting as European host, in collaboration with CERN.

The National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign, was instrumental in the development of early graphical software that harnessed the unique features of the World Wide Web. NCSA focuses on improving the productivity of researchers by providing software for scientific modeling, analysis, and visualization. The World Wide Web was an obvious way to fulfill that mission. NCSA Mosaic, one of the earliest web browsers, was distributed free to the public and led directly to the phenomenal growth of the World Wide Web.

For an exploration of this late 20th century marvel, visit A Little History of the World Wide Web.



World Wide Web

The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
Pointers to the world's online information, subjects , W3 servers, etc.
Help
on the browser you are using
Software Products
A list of W3 project components and their current state. (e.g. Line Mode ,X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)
Technical
Details of protocols, formats, program internals etc
Bibliography
Paper documentation on W3 and references.
People
A list of some people involved in the project.
History
A summary of the history of the project.
How can I help ?
If you would like to support the web..
Getting code
Getting the code by anonymous FTP , etc.

This is what the first website on the Internet looked like!

Web Browsers

A web browser is the software program you use to access the World Wide Web, the graphical portion of the Internet. The first browser, called NCSA Mosaic, was developed at the National Center for Supercomputing Applications in the early 1990s. The easy-to-use, point-and-click interface helped popularize the Web, although few could then imagine the explosive growth that would soon occur.

Microsoft Internet Explorer, Microsoft Edge, Mozilla Firefox, Safari and Google Chrome are popular browsers. The battle to dominate the market has led to continual improvements to the software.

As to which one is best, well, that is for the user to decide. Each company continuously upgrades their browser and most find that it is a personal preference as to which one is the best.

Outfitted with a browser, you can surf to your heart's content, but it's easy to get lost in this vast electronic network. That's where your browser really helps, as it comes loaded with all sorts of handy features. Fortunately, you can learn the basics in just a few minutes, then take the time to explore more advanced functions.

Since web browsers have more similarities than differences, we'll primarily cover those. For the most up-to-date information about each browser and a complete tutorial, check the online handbook under the Help menu or go to the websites of the respective software companies.

Browser Anatomy

When you first launch your web browser, usually by double-clicking on the icon on your desktop, a predefined web page appears. This page is referred to as your home page or start page. With Firefox for instance, you may be taken to the Mozilla home page or to a page selected by your Internet service provider. But if you want, you can easily change your start page. This article walks you through the process.

The Toolbar

The row of buttons at the top of your browser, known as the toolbar, helps you travel through the web of possibilities, keeping track of where you've been. Since the toolbars for Internet Explorer and Firefox differ slightly, we'll first describe what the buttons in common do.

- The Back button (the arrow pointing to the left) returns you the previous web page you've visited.
- Use the Forward button to return to the page you just came from.
- Home takes you to whichever home page you've chosen. (If you haven't selected one, it will return you to the default home page, usually the Microsoft or Google websites.)
- Reload or Refresh does just that, loads the web page again. Why would you want to do this? Sometimes all of the elements of a web page haven't loaded the first time, because the file transfer was interrupted. Also when you download a web page, the data is cached (pronounced "cashed"), meaning it is stored temporarily in your computer's memory. The next time you want that page, instead of requesting the file from the web server, your web browser accesses it from the cache. But if a web page is updated frequently, as may be the case with news, sports scores or financial data, you won't get the most current information. By reloading the page, this timely data is updated from the web server.
- Print lets you make a hard copy of the current page loaded in your browser.
- The Stop button stops the browser from loading the current page.
- Bookmarks or Favorites let you can record the addresses of websites you want to revisit. Once you add a URL to your list, you can return to that web page simply by clicking the link in your list, instead of retyping the entire address.

The Address Bar

Either above or next to the toolbar, you will see a long box. This is where you type the address or URL of a website you want to visit. After you enter it, press the Return or Enter key to access the site or click on the "Go" or Arrow button to the right of the address box.

By clicking the small triangle to the right of the Location box, you will get a drop-down list of the most recent websites you've visited. To revisit a site, just click on the address.

The Menu Bar

Located along the top of the browser window, the menu bar offers a selection of things you can do with a web page, such as saving it to your hard drive or increasing the size of the page text. Many of the choices are the same as the buttons on the toolbar. Click once on a word to access the drop-down menu, then click on the selection you want to make.

The Access Indicator

Both browsers have small graphics that indicate what the browser is doing. When this image is animated, it means that your browser software, known as a client, is accessing data from a remote computer, called a server. The server can be located across town or on another continent. Your browser downloads these remote files to your computer, then displays them on your screen. How long this process takes depends on a number of factors, such as the speed of your connection, the data size of the files you are downloading, how busy the server is and the traffic on the Internet.

The Status Bar

At the bottom of your web browser you'll find the status bar. You can watch the progress of web page transactions, such as the address of the site you are contacting, whether the host computer has been contacted and the size and number of the files to be downloaded.

The Scroll Bar

The vertical bar to the right of the browser lets you scroll down and up a web page. You can do this by placing your arrow pointer on the up or down arrows and holding down your left mouse key. You can also place the pointer on the slider control, hold down the left mouse key and drag the slider. Your mouse may also have a scrolling wheel as an alternative way of navigating a long page.

If a web page is too wide to fit your screen, a horizontal scroll bar will appear just above the status bar. This scroll bar works the same way.

Some Browser Tricks

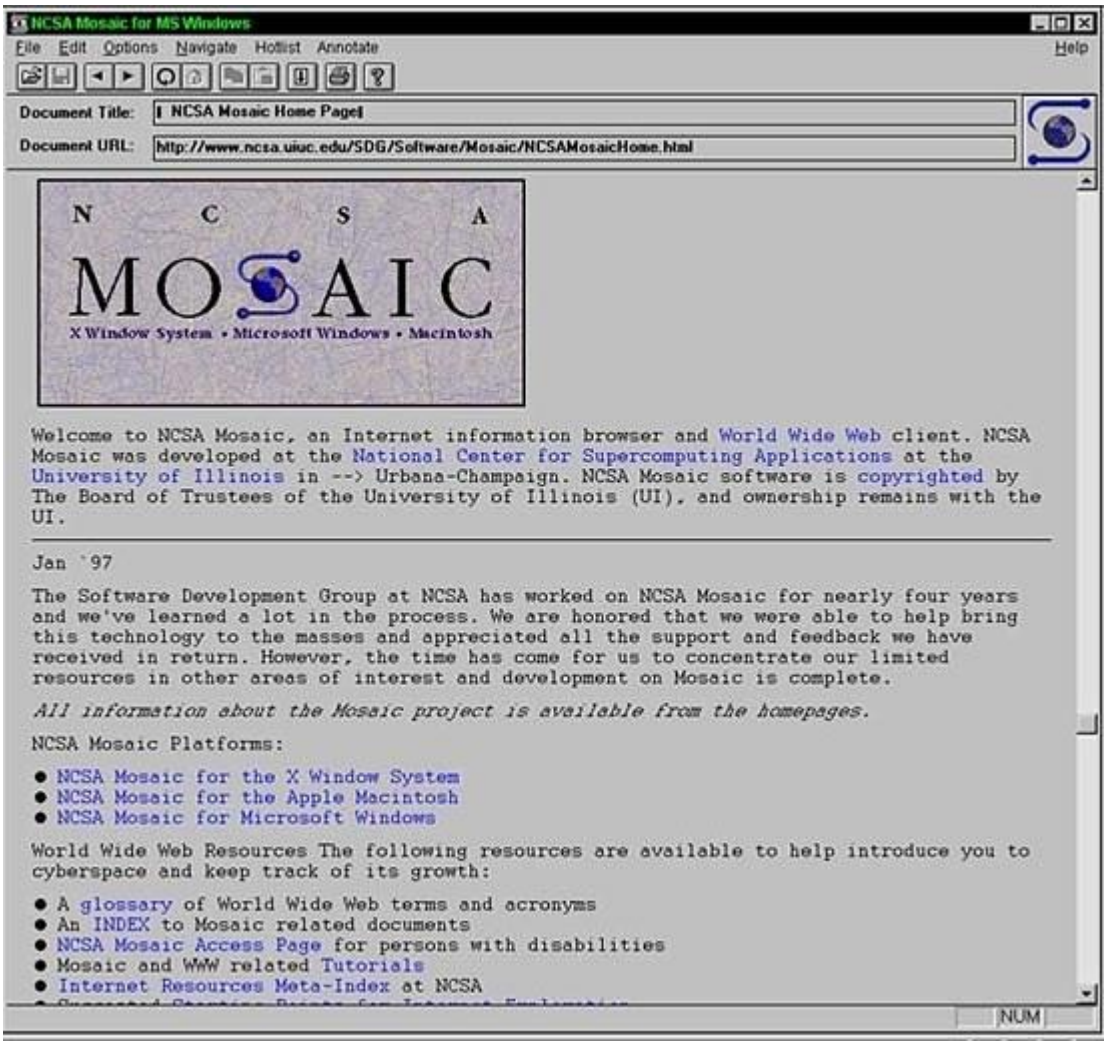
As with most software, there is more than one way to accomplish a task. Here are a few other useful features to help you navigate:

As you hop from page to page and website to website, your browser remembers where you've been. With Firefox, select the History option from the

menu bar. With Internet Explorer 7.0 and later, click the Favorites Center star, then click the History button. There you'll find a list of all the web pages you have visited during a specified period of time. To revisit a page, just click on the address.

Another way to move between pages is by first clicking your right mouse button. A pop-up menu will appear and you can choose to move forward or back by clicking on your choice with your left mouse button.

One final word of advice: Your web browser is your gateway to the Internet. Take the time to learn about its features. In the long run, it will save you hours of frustration and open up a cache of treasures.



Here is a screenshot of Mosaic, the first web browser!

Understanding Web Addresses

Think of the World Wide Web as a vast collection of electronic files stored on millions of computers all around the world. Hypertext links these files together. Uniform Resource Locators or URLs are the addresses used to locate the files.

The information contained in a URL gives you the ability to hop from one web page to another with just a click. When you type a URL into your browser or click a hypertext link, your browser sends a request to a remote computer, called a web server, to download one or more files. Every URL is unique, identifying one specific file.

What does a typical URL look like? Here are a few examples:

- http://www.learnthenet.com – The home page of Learn the Net.
- http://www.facebook.com – The home page of Facebook
- https://www.amazon.com – The secure website for Amazon
- http://blogs.reuters.com/soccer – A blog about soccer from the Reuters news service

Web Address

The first part of a URL (before the two slashes) tells you the type of resource or method of access at that address. For example:

- http - a hypertext document or directory
- ftp - a file available for downloading or a directory of these files
- news - a newsgroup
- file - a file located on a local drive of your computer

The second part is typically the address of the computer where the data or service is located. Additional parts may specify the name of a file, the port to connect to, or the text to search for in a database.

You enter the URL of a site or web page by typing it into the Address bar of your web browser.

Browsers can store the URLs you want to revisit by adding them to a special list. Firefox calls them Bookmarks; Internet Explorer calls them Favorites. Once you add a URL to your list, you return to that web page by clicking the name on the list, instead of retyping the address--a good thing, as some URLs can be quite long.

Most of the URLs you will use start with http, which stands for Hypertext Transfer Protocol, the method by which HTML files are transferred over the Web.

Here are few other things to know about URLs:

- A URL will never have spaces in it
- A URL always uses forward slashes (//).
- URLs are not case sensitive. So typing "http://www.google.com" or "HTTP://WWW.GOOGLE.COM" or any variation of upper and lower case letters takes you to the same page.
- If you type a URL incorrectly, your browser will not be able to locate the site or resource you want. Should you get an error message or access the wrong site, check to see if you spelled the address correctly.
- You can find the URL behind any hyperlink by placing your cursor over the link. The pointer turns into a hand and the URL appears in your browser's status bar, usually located at the bottom of your browser window.

To learn more about URLs, read the World Wide Web Consortium's Fact Sheet on URLs.

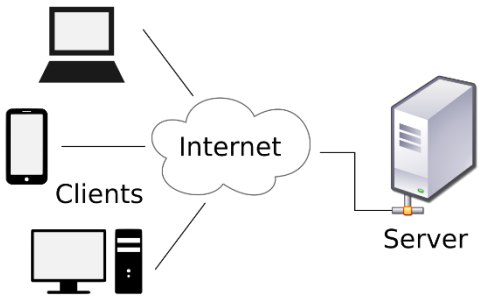
How the Web Works

The World Wide Web is the most popular part of the Internet by far. Once you spend time on the Web you will feel that there is no limit to what you can discover. The Web allows rich and diverse communication by enabling you to access and interact with text, graphics, animation, photos, audio and video.

So just what is this miraculous creation? On the simplest level, the Web physically consists of your personal computer or mobile device, web browser software, a connection to an Internet service provider, computers called servers thathost digital data and routers and switches that direct the flow of information.

Client/Server System

The Web is sometimes referred to as a client-server system. Your computer is the client; the remote computers that store electronic files are the servers.



Navigating the Web

Let's say you want to access the Louvre museum website. First you enter the address or URL of the website in your web browser (more about this shortly). Then your browser requests all the data files that comprise the web page from the web server that hosts the Louvre's site. The server transmits the data over the Internet to your computer. Your web browser interprets and assembles the data, displaying it on your computer screen.

The Louvre's website also has links to the sites of other museums, such as the Vatican Museum. If you click the link, you access the web server for the Vatican Museum. In this way, information scattered all across the globe is linked together.

The "glue" that holds the Web together is called hypertext and hyperlinks. This feature allows electronic files on the Web to be linked so you can jump easily between them. On the Web, you navigate--commonly known as browsing or surfing--through information based on your interest at that particular moment.

To access the Web you need a web browser, such as Microsoft Internet Explorer, Mozilla Firefox, Chrome or Safari. How does your web browser distinguish between web pages and other types of data on the Internet? Web pages are written in a computer language called Hypertext Markup Language or HTML.