



# The HeliOS Project

## Computers 101

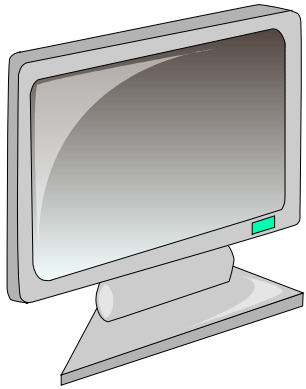
Version 0.3  
Aug 1, 2011

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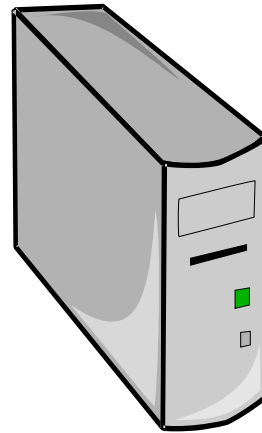
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# The Parts of Your Computer

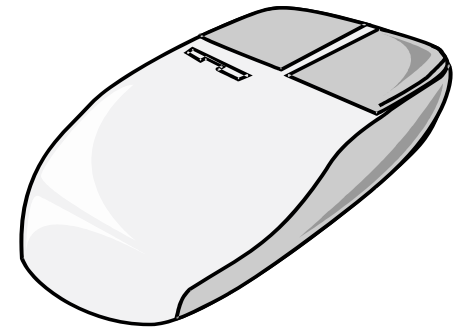
Most desktop systems come with a set of individual pieces of hardware that together, make up your computer system. The basic components are:



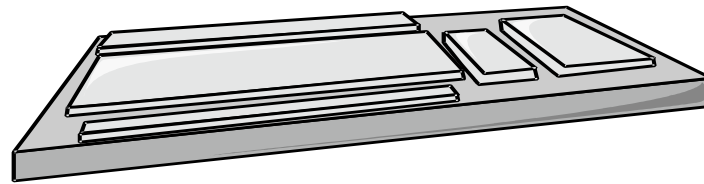
Monitor



Computer



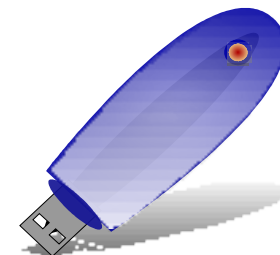
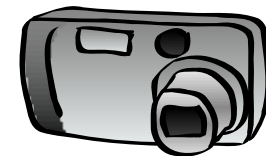
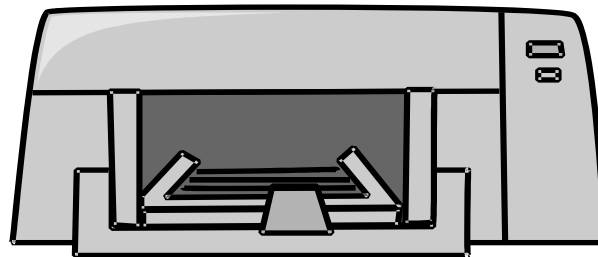
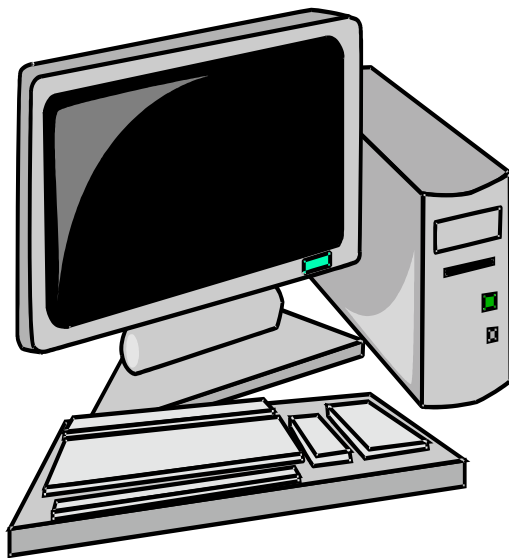
Mouse



Keyboard

# Components of Your System

Your computer has a lot of cool stuff both inside and outside of it. Right now, we are going to concentrate on some of the stuff outside of it so you know how to utilize that stuff.



# Your ROMs

ROM is an abbreviation for “Read Only Memory”. In actuality, that terminology isn't exactly accurate any more but it doesn't really matter to you. It's not important that you remember this, only that it is for your CD's or DVD's. It is not, as Skip would tell you...a cup holder.

Simply, your ROMs are your CD and DVD players within your computer.



# Your ROMs (cont.)

How do I know if it is a CD or DVD ROM drive?

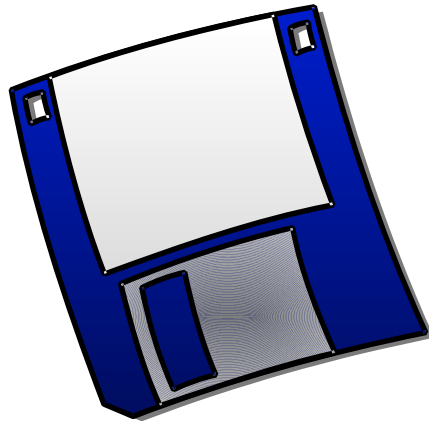
Usually, it will say it on the front of the drive. A good rule to remember is that if it says it is a DVD ROM, you can automatically assume it will read CD disk as well. A CD disk holds much less data than a DVD, thus the difference.

If it says CD RW on that drive, that means your drive is capable of both reading AND writing data onto a recordable CD but not a DVD. Some CD's and DVD's are rewritable but are not used much any more due to the cheap prices of flash drives. Plus they are much more expensive than the one-time writables. We will talk about flash drives in a few minutes.

If it says DVD RW on the front, that means it can read AND write on a recordable DVD disk. Again, when it says it can read and write a DVD, you can safely assume it will read and write a CD.

# Your ROMs (cont.)

Floppy Drives. These are usually museum pieces these days but some computers still have them. They are used to insert a “floppy” disk into and write data onto. Again, the CD replaced the floppy and now the USB flash drive is on it's way to replacing the CD/DVD, but that will happen much slower.

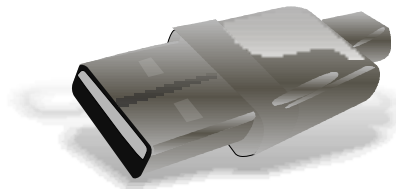


# USB Ports

*“A port is a port of course of course....”*

A port is simply terminology for something you can plug something else into. You can think of it in terms of a socket. There may be a few ports on your computer that do different things. We are going to look at the “consumer ports”...the ports that you will be wanting to use as a computer operator, not a repairman or specialist.

USB stands for “Universal Serial Bus”. Which of course means nothing to you. We're just showing off that we do know what USB stands for. All you really need to know is that a USB port on your computer allows you to plug in USB devices of different types into your computer.



# USB Ports (cont.)

Have a digital camera? You will need to know where your USB ports are in order to plug it in. There are also different kinds of USB plugs too and we'll get to that shortly. USB flash drives are amazing little things you can carry tons and tons of stuff from your computer around in your pocket. Music collections, pictures, data of any sort can be stored on your USB flash drive.

All USB ports on your computer will look and act the same. They are small rectangular slots and many of them can be found at the back of your computer. Most computer manufacturers came to their senses and discovered you, as a user, might find it handier to have your USB port available to you in the FRONT of the computer....instead of getting on your hands and knees again and bumping around under the desk.

# USB Ports (cont.)

You will be using different types of USB cables however to hook USB devices to your computer. Most things are standard now but some manufacturers of phones purposely make it different so if you lose yours, you have to pay them way too much money to replace it. Dell is famous for making you pay for “proprietary” connectors. When you buy phones or any other devices you will plug into your computer, make sure it comes with the universal plug. I will pass one around so you can see what it looks like. If you have a phone, show it to me and I will tell you if it is universal or not.

# USB Ports (cont.)

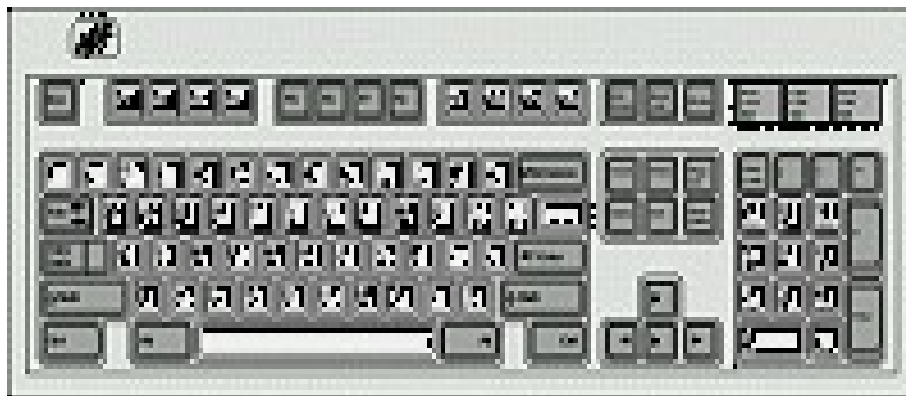
One common cable you will be using is the USB cable that connects to your printer. The large rectangular end goes into your computer and is known as an “A” connector. An A connector always goes into the computer. The end that goes into your printer is the “B” connector and is much smaller and almost square. These are standard USB plugs for printers. I am passing one around for you to see.

Common USB cables  
and ends



# Keyboard Use

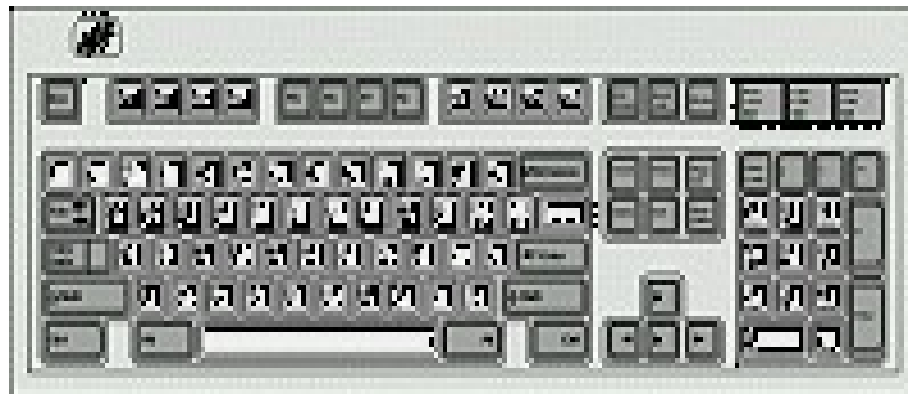
Keyboard short cuts are a vastly under-used tool. They can not only speed up your work, they can make it a lot easier. Working with just the mouse can cut you out of options you might be missing and after prolonged use, it can be tiring. Keyboard short cuts can and probably will make your life much simpler. At least while you are sitting at a computer. I have yet to find one that will fix my car.



# Keyboard Use (cont.)

The "F" keys can be found at the very top of the keyboard. For now, we will be working with desktop keyboards. Laptop keyboards have a whole new set of rules and if anyone has questions about them, we will be glad to help, but for now, we will focus on what is in front of us

From left to right the F keys are numbered F1 - F2 - F3...all the way up to F12. By the way, the "F" stands for "function". Each F key can or will perform a different function on your computer, depending on what other key combinations you use, but for right now, we'll look at just the F keys by themselves.



# Keyboard Use (cont.)

F1 - opens the help manual for whatever application or program you are using at the moment.

F2 - Doesn't do anything when pressed without another key in combination

F3 - Doesn't do anything when pressed without another key in combination

F4 - Doesn't do anything when pressed without another key in combination

F5 - Refreshes your browser to see the latest changes. If you are browsing a news page and walk away for a few minutes, the F5 key will show you any changes to that page.

F6 - Highlights whatever is in your address bar in your browser so you can erase it and type in something new. Hitting the delete key erases it after you hit the F6 key.

# Keyboard Use (cont.)

F7 - this feature places a movable cursor in web pages, allowing you to select text with the keyboard only. It is only used by people who have trouble using a mouse so if you should ever hit F7 by accident, just click no.

F8 - Doesn't do anything when pressed without another key in combination

F9 - Doesn't do anything when pressed without another key in combination

F10 - Doesn't do anything when pressed without another key in combination

F11 - Be careful here and make sure you remember this one. The F11 key brings your field or browser full screen and it covers all your browser and panel controls. If you accidentally hit F11, don't panic. Just hit it again and everything will return to normal.

# Keyboard Use (cont.)

F12 - Doesn't do anything when pressed without another key in combination

Print Screen (or PrtSc) - This seldom works in Windows but it works great in Linux. Pressing the Print Screen key takes a "snapshot" of your entire desktop so if there is something on it you want to send to someone, you can attach the picture to your email and do so. Ask me to give you further details about print screen options.

# Keyboard Use (cont.)

OK, so that is how individual F keys work independently, but what about when they are pressed in combination with other keys. Let's take a look at some of our more useful options:

=> Alt + F1 : Open the Main Menu.

=> Alt + F4 : Close the window.

=> Alt + F10 : Minimize and Maximize the window.

# Keyboard Use (cont.)

Now let's look at the Control Key. There are two of them placed on the bottom of the keyboard for convenience, one on the left and right. The control key or "Ctrl" key does some important things when combined with other keys. These are some of the handiest key shortcuts you will ever learn.

Cntl + a - highlights everything in a given field.

Cntl + c - copies whatever is highlighted in a given field.

Cntl + x - cuts whatever is highlighted in a given field (actually makes it disappear when it is user-created).

Cntl + v - pastes whatever you just cut or copied into a given field.

Cntl + f - opens a "find" dialog so you can search for a word or a phrase within a given field.

Cntl + d - opens a bookmark saver so you can save the website or page you are on into your bookmarks.

# Keyboard Use (cont.)

Cntl + p - begins the print dialog to print the current page or screen.

Cntl + o - Opens your file manager (the place where all your stuff lives).

Cntl + s - Saves the word processor or text editor to its current state.

Cntl + n - Opens a new instance of whatever field you are working in such as your text editor or word processor. Note that in your text editor you will open a new "tab" and not a completely new instance. We will talk more about tabs when we get into the Internet portion of the class.

Cntl + z - Undo the last keyboard command,

# Using the Mouse

Here are some terms you might find useful as you learn to use your computer.

**Field:** Any (usually white) space you are actively reading, looking at or typing in. You may have many fields open at the same time such as your browser, your word processor and your music player. The one you are currently working on is your "focused" field.

**Cursor:** The blinking thingy on your screen that tells you where you are at on a page at any given time. The cursor is the place where all typing starts. If you open something to type in and it doesn't have a cursor, don't panic, just left-click your mouse in that field and one will appear.

**Hair:** Something your instructor had before he began working on computers.

# Using the Mouse (cont.)

Single click: Used to focus the mouse into a field, sometimes a computer can be programmed to single click only but it's not a good idea.

Double click: Used to highlight a word in a field or most often, to execute or open an install package on your computer such as executable files.

# Using the Mouse (cont.)

Most computer mice are simple, They usually consist of a main body with a button on each side of a scroll wheel. There are other mice for your computer that can do other things, and some of those things are pretty cool, but for right now, let's look at a simple 3 button mouse.



# Using the Mouse (cont.)

Many new computer users get the left and right click buttons mixed up. They both serve different functions when pressed and more than a few have gotten frustrated when they can't remember which does what. This is an easy thing to remember. When you click the right button, it gives you a choice of the available options open to you such as:

cut

copy

paste

select all (cntl + a does the same thing)

The left button is boss here. When it is pressed, it executes the command you choose after clicking the right mouse button.

Easy way to remember...right is the worker, left is the boss.

# Using the Mouse (cont.)

The scroll wheel allows you to scroll up and down a page without having to move to the side bar and click your way up and down. If I had the money, I'd buy the inventor of the scroll wheel a Lexus.

The scroll wheel also serves as a "middle click" button. Depending on your computer and your operating system, the middle click button will produce an up and down graphic in the center of your screen and you can actually slide the entire mouse up and down the to get to the top or the bottom of the page. There is a much easier way to do this and we will talk about it when we get to the Internet part of the class.

# Using the Mouse (cont.)

Choosing text with a mouse. When there is a specific line of text or maybe one paragraph you want to copy, place the cursor at either end of the string you want to highlight, then holding your left mouse button down, drag the mouse across everything you want to highlight. Once it is fully highlighted, you can copy and paste with either the keyboard shortcuts we discussed or put your mouse over the highlighted portion and right click it...then choose the cut or copy choice you desire.

# Welcome to the Internet

We live in a time when the vast majority of mankind's knowledge is available to anyone.

No longer do we have to plan a trip to the library and endure long searches for information. It is literally at our fingertips.

From recipes to removing your own appendix, the information you seek is readily available. Let's look at how we go about retrieving that information.

# The Browser

Think of it this way...If the Internet is the Information Super Highway, then the browser is your car. There are several browsers available for your use and they all have their strengths and weaknesses. Some are high performance race cars, some are large, and comfortable luxury cars, and others are the Chevy Vegas and Ford Pintos of computing.

Internet Explorer was for many years, the most-used browser. Microsoft Windows came with Explorer as the default browser but it soon became the Window by which most viruses and spyware entered your computer. The problem with Explorer, or "Exploder" as tech geeks call it is that it's hard wired into Windows. That means you can not remove it from your computer...the best you can do is download and install another browser and ignore Internet Explorer. If you are a Windows User, you will still need it from time to time to do your Windows Updates. Microsoft will not allow you to use any other browser to do them.

Pinto indeed.

# Alternative Browsers

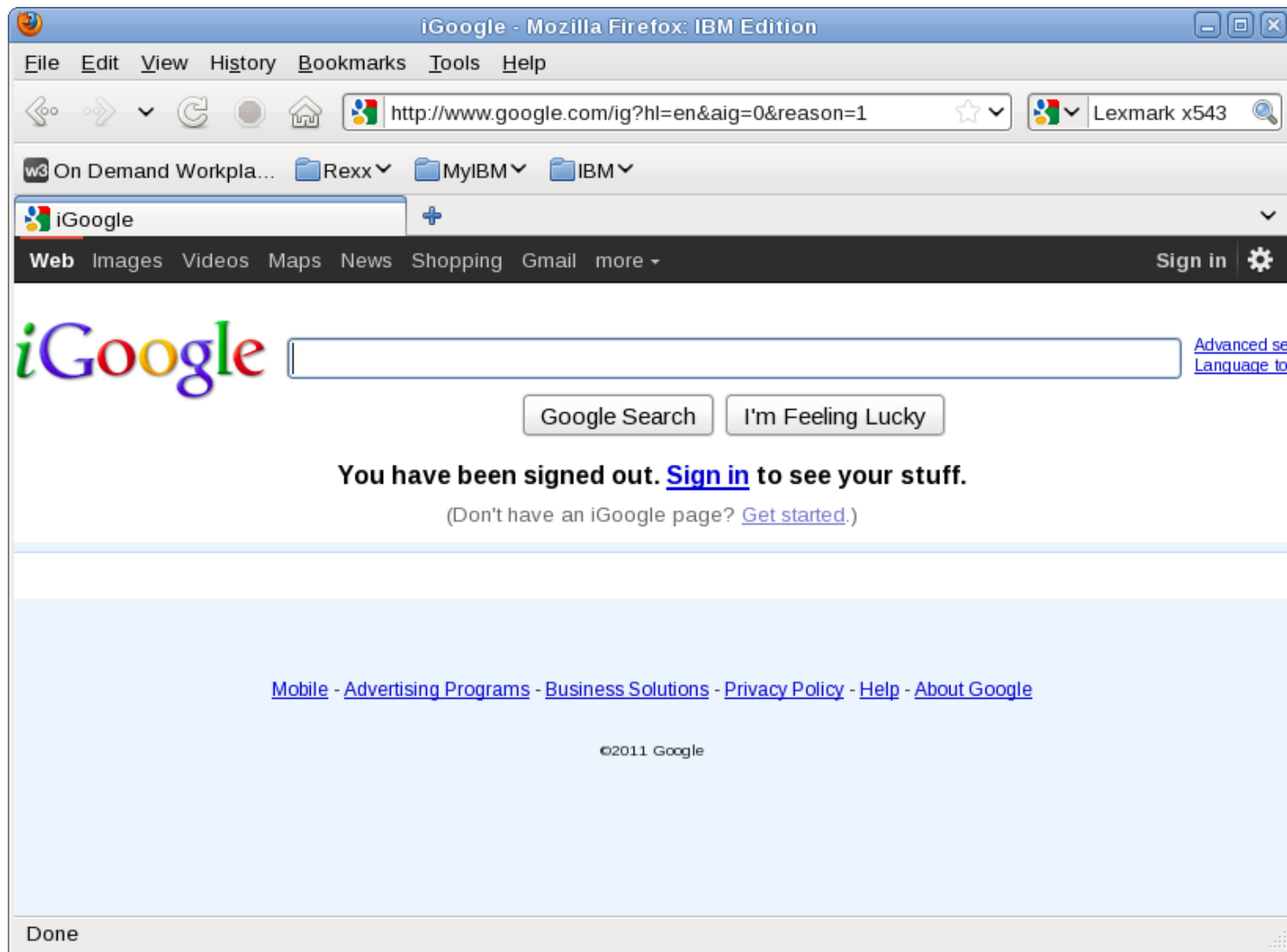
There is one we recommend over every other.

Firefox appeared on the scene in November of 2004. The difference between Explorer and Firefox became apparent immediately. Firefox let you do more things to improve your browsing experience. You could add features easily that made Firefox faster, safer and more enjoyable. These improvements were installed via things called extensions and we will get to those shortly.

Since we refuse to use Windows in our HeliOS operation, we use Firefox. While it too comes "bundled" with Linux (the operating system on the computer in front of you) the difference is that you can manually remove Firefox from your system...unlike Internet explorer.

Let's take a look at the vehicle by which you will discover the Internet.

# Firefox Browser



# Browser Operations

## **The SSC buttons: Shrink - Size - Close**

The top right side of your browser has three little boxes. From left to right they appear as a minus sign, a double joined box, and an X. The minus box when clicked, shrinks the browser or program down to the task bar. The double joined boxes changes your window or field from half size to full size and the X box closes the browser or program. Let's try it together and see how it works.



# Browser Operations

## The "address bar" or "URL" bar

The address bar is the actual words you type into the field in order to go to that website or page. This is advertised in many commercials as starting with "WWW". With improvements to browsers, you no longer need to type the w's in the address bar. Instead of [WWW.heliosinitiative.org](http://WWW.heliosinitiative.org), you can now just type [heliosinitiative.org](http://heliosinitiative.org).



# Browser Operations

## **The search field**

This field is for typing in words or phrases you want to search such as: "cake recipes". We will devote time during this class to teach you the proper way to search.



# Browser Navigation

## Navigation

The navigation toolbar shows the directions you can travel in your browser. When you click from one page to another, the navigation arrows will light up, letting you know that you can click the "back" or "forward" in your "history".



# Browser Navigation

## Menu

The menu bar will be important to you because this is where you can set your preferences for the browser, save your work such as emails or other searches and the command to print the page you are on. It also offers you a way to hide or show different toolbars in your browser.

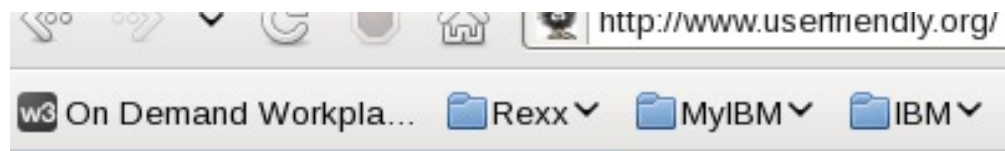


File Edit View History Bookmarks Tools Help

# Browser Navigation

## Bookmarks

In Internet Explorer, these are known as "favorites". Bookmarks are a way to save important or interesting pages that you might want to access often. Firefox also offers you a way to save your most important bookmarks right in a toolbar.

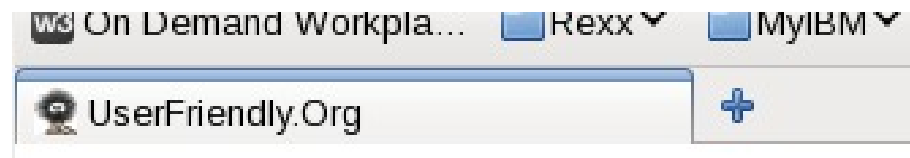


# Browser Navigation

## Let's talk Tabs

As you spend more and more time on the internet, you are going to find that you want more than one page open at a time. It used to be that in order to do this, you had to open multiple browsers (or windows) in order to do so. This often led to a number of boxes cluttering your task bar at the bottom. Of course each of those boxes represented an open Window. We don't do that any more.

Instead of opening a different page in a different browser window, we can now open tabs across the top for each page we want to look at. This is much more convenient AND it doesn't eat up your memory resources like opening a bunch of pages does. Let's work with tabs and get an idea of what we are doing.



# Browser Searching

## **What are you looking for?**

Many people become frustrated when they search for things on the Internet because they don't know how to search properly. There are a few rules and techniques that will allow you to find what you want quickly and easily.



# Browser Searching

## **Google VS. The World**

In the early days of the Internet, there were several “search engines” that competed for your use. Altavista and Yahoo were the two main ones. In 1998, two Stanford students invented a search engine that not only surpassed the others in accuracy, it allowed them to eventually become one of the top 50 corporations in the world in wealth and they are currently ranked number 1 as the most reputable company in the world. They are this wealthy because they incorporated “targeted ads” within their search results. Companies pay a premium to have their ads in Google search results. This has rocketed Google into the number one search engine in the world. If for nothing else, because they deliver the most accurate results of any search engine. This is to include Microsoft's Bing search tool and the only surviving dot com era company, Yahoo.

# Browser Searching

## **How to get what you want.**

There are specific things to remember when you use Google (or any other search engine) to find something on the Internet. Most people type in way too much information in the “search string”. A search string is simply the line of words you type into the search field.

Remember, ultimately you are talking to a computer and you must think like the computer in order to gain the best search results. Computers do not understand words like “the”, “of”, and” “is” or “a”. Those words are referred to as “boolean operators”. And don't worry...you don't need to remember that, it is just what those types of words are called in search terms.

# Browser Searching

So if you want to find out:

How tall is the Statue of Liberty?

All you really need to type in is the words the search program understands:

How tall Statue Liberty?

Cutting out the boolean operators will give you more results in the top ten answers than the full sentence string.

But what if you are looking for a specific line in a book or poem? Let's say a quote in a movie. You know the quote but you don't remember what movie it was or who starred in it. In this case, the booleans can be included because, no matter how obscure or how unknown the subject is...

# Browser Searching

Someone has already asked the question and Google remembers it. That is why you will see “suggested” search results offered as you type. In order to get the most accurate results in this case, you would include the booleans.

Let's do this. Let's type in:

*In all the gin joints.*

Aha! You will see in the top two results alone, even without clicking the link, we know it is from the movie Casablanca and that the character saying the line was Rick, played by Humphrey Bogart.



# Browser Searching

Another handy thing to remember is to ask the question as if you were answering it.

Instead of typing in:

*“How tall Statue Liberty”*

Try this:

*“Statue Liberty feet tall”*

That gives you the answer by just looking at the second search result even without clicking it.

Or you can try it again. Instead of:

*What is the population of Boise Idaho?*

Try:

*“Population Boise Idaho is”*

# Browser Searching

## What you should know.

Often times you will find “sponsored results” at the top of your search results. These are companies who pay Google to put their ads up first in the results. Rarely will you find the answer you are looking for in these results. They will most often be the top three or four results on the page. Most times though, you won't see them. Just recognize them as someone trying to sell you something and move on down to the real search results.

