Basic Internet

Sandy Senior Center

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Forward

This manual was written to supplement classroom instruction provided at the Sandy Senior Center in the basic internet course. This course was generated to provide seniors an introduction to the internet with emphasis on what they need to do to protect their computers and themselves when on the internet.

Italics and bold-faced italics are used throughout this book to highlight menu items and commands to assist in separating text from instructions.

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Week 1 Protecting Yourself

Terms:

- Malware
- Virus
- Trojan Horse
- Zombie
- Worm
- ISP – Internet Service Provider
- Firewall
- Cookie
- Spyware

Be able to:

- Determine if you have Anti-Virus Protection
- Determine if anti-virus protection is up to date
- Identify spyware protection that runs continuously.
- Check to see if Automatic Updates are on

Understand:

- Why you need anti-virus and spyware protection
- What a firewall does for you
- The importance of keeping your operating system up to date
- The two parts of the Anti-Virus program

Virus

Early in the history of personal computers, a few people wanted to show off so they started writing programs that would infect your computer. At first these programs would just cause some message to appear on your monitor signed with their pseudonym just to let you know that they had done something. Later these programs would actually do damage to your machine by erasing your files or system files, by self replicating itself. This would use up all your memory causing your machine to crash and cause any media such as a floppy disk to be contaminated. This contaminated disk then would move this program from one machine to another. Since some diseases are transmitted by viruses that self replicate, these programs have become known as viruses. Today most viruses are generated by people that are using the virus to make money. The most common method is via email that contains an advertisement.

Today programs like this are genericcally referred to as **Malware** (Malicious Software) and interchangeably as **Virus.** The generic name of virus is given to any program that replicates itself. After that, another name are given by how they replicate themselves or where or what they do to your computer.

Worm

A *worm* is a virus that can replicate itself and move from computer to computer without human intervention. The biggest danger with a worm is its capability to replicate itself on your system, so rather than your computer sending out a single worm, it could send out hundreds or thousands of copies of itself, creating a huge devastating effect. One example would be for a worm to send a copy of itself to everyone listed in your e-mail address book. Then, the worm uses all of your friends' computers and address books to cascade the effect.

Trojan Horse

A *Trojan Horse* is named after the mythological Trojan Horse because it is a program inside a program. At first glance it will appear to be useful software, but will actually do damage once installed or run on your computer. Those on the receiving end of a Trojan Horse are usually tricked into opening them because they appear to be receiving legitimate software or files from a legitimate source. Some Trojans are designed to be more annoying than malicious (like changing your desktop look or adding silly active desktop icons) or they can cause serious damage by deleting files and destroying information on your system. Trojans are also known to create a backdoor on your computer

that gives malicious users access to your system, possibly allowing confidential or personal information to be compromised. This backdoor into your computer allows the hacker to take over and use your computer to attack other computers. A single hacker then can control thousands of computers at one time and use them to deny service to a web site by commanding all the computers to contact the web site at the same time, over and over. A computer that has been taken over in this manner is called a **zombie**. Unlike viruses and worms, Trojans do not reproduce by infecting other files nor do they self-replicate. Since they do not self-replicate, they are not technically a virus, but because the damage they can do is similar to viruses, most people and anti-virus programs include them in the family.

Rootkit

The *Rootkit* is the latest type virus and masquerades as an operating system file. It is one of the most difficult types of virus to remove safely. Many anti-virus programs can detect a rootkit but cannot remove it. In this case, you may have to go to your anti-virus company website and download a program that specializes in removing that specific rootkit. Sometimes you will hear about a "blended" virus.

This just means that more than one type of virus has been tied together in a single package.

A Day in the Life of a Virus

1. Sent to the first person.

2. Propagated to everyone in the address book.

3. Everyone who receives and opens the attachment,

4. Virus sends itself to everyone in their address book. And so on and so on.

5. Discovered by IT technician and sent to Virus Company.

6. Virus Company learns how to detect.

7. Virus Company learns how to disable.

8. Update published for you to load the next time you connect to the Internet.

Anti-Virus

All good anti-virus programs will protect you against all "**known**" viruses. The problem is that new viruses are generated every day. There is a period of time between the viruses being injected into the environment, discovered, reported, analyzed, and a cure being developed and distributed. During this time your machine can be infected, even though you have an up to date anti-virus program.

The anti-virus program contains two major sections. The main section (or **engine**) contains the code that detects and removes any known virus or Trojan horse. It does this by examining any email or file that is downloaded into your computer. The second part is the **database** that contains all of the recognition and removal information for known viruses. This file should be updated every time you get on the internet. Unless you disable this feature, the anti-virus program will do this automatically. Some free programs will only let you do this once a day automatically. Most will allow you to update manually at any time. The paid programs will allow you to update hourly and have additional features like anti-spyware and firewalls integrated into a single program. Both will have the ability to not only scan incoming files but scan your complete computer. A complete scan of your computer may take several hours to finish on some computers. Setting up the complete scan schedule is usually a part of the installation. On home computers, a weekly basis is the typical period. On work computers, many companies will schedule this to happen after hours on a daily basis.

If you have a paid anti-virus program it is usually good for one year (at least one brand is good for 2 years) and you have to pay after that period to continue getting updates. Your subscription will allow you to update the database every day or more often and if needed, a new version of the main program may be provided during the subscription period.

On new computers, a "trial" copy of anti-virus and other programs are often provided. These can be good for 30 to 90 days depending on the vendor. You are not protected after the listed time period. You must either pay for a new subscription or remove it and replace it with another program.

You should only install one anti-virus program at a time. An anti-virus program will start working and stay working the whole time the computer is on. Because these programs grow every year to combat the increasing number

of viruses, the amount of memory and processing power they take keeps increasing. A computer that was designed for Windows 95 would work just fine as long as you never put it on the internet. Installing the necessary security to get on the internet would take all of the available memory and processing power and leave you with nothing to run programs.

A virus or other attack on your computer exploits a weakness in the Operating System (Windows) or a program that allows the use of a user file. About 80 to 90 percent of viruses and other attacks on your computer could be prevented by just keeping your operating system and programs up to date. Unfortunately, the size of the operating system makes repairing it to remove the weakness a long process, sometimes taking months. The anti-virus programs can be modified via the data base to recognize a new threat in a few hours. Writing the code to remove the threat can take several days, but the anti-virus program puts the identified threat in **quarantine** until the removal update has been received. This is another reason that you must do a complete scan on your computer.

Updating

Automatic update for critical updates was turned on by Service Pack1 in Windows XP. Vista and Windows 7 comes with automatic update for critical updates turned on. When turned on, Windows will check each time you get on the internet and notify you if an update is available. It will normally install the update without your help. On occasions, the computer needs to be restarted to enable the update. If this is required, you will get a pop-up that tells you to restart the computer. Microsoft also provides optional updates that should be checked on a periodic basis. These will include updated drivers for your hardware and new Microsoft programs like the latest version of Internet Explorer and Media Player. To check for the optional updates:

Vista and Windows 7:

1. Click on “Control Panel” from the start menu
2. Click on “Windows Update” then on “check for updates”
3. Select all driver updates and any optional programs you want.
4. Click Ok

Windows will now download and install the selected updates

XP

1. Click on “Help and Support” from the start menu
2. Click on “Windows update” under Pick a Task
3. Click on “Custom”
4. Look at both Hardware and Software Options
5. Notice on the right side of the window there will be a statement that Automatic Update is enabled. If not you need to enable.

Once a month, Microsoft will include in the update, a program referred to as **MSRT** which stands for Malicious Software Removal Tool. This is a Microsoft spyware program that will remove all known Spyware from your computer. You may be asked to accept this program before it runs. After it completes its removal of spyware, it will uninstall itself.

Spyware

Spyware is software installed on your machine that reports back to the author where you have been on the internet. This is done by examining your cookies. A **cookie** is a small file that most websites will install on your computer to store information that the website uses to make your next visit to the site easier. This is normally a good thing. The spyware programs do not harm your computer directly and are used to target your computer for ads that reflect where you have been on the internet. Of course, if you get too many they can slow down your internet browsing. If you don’t browse the internet very often, the MSRT program mentioned above may be enough protection. Because of the variety and speed that new spyware programs are generated, none of the existing programs get rid of all of the spyware installed on your computer. Many people will install several anti-spyware programs on their computer and run them separately. This is not a problem if the program just runs and closes down after it is finished. If it is a program that runs all the time, you should only use one of these on your computer. You can tell if it runs all the time, if stays in the system tray after you finish the scan. Windows

defender and Live One are examples of programs that stay all the time. Most of the paid Anti-virus suites include anti-spyware programs that stay all the time.

Firewall

The next line of defense is the **Firewall**. Both XP and Vista provide an inbound firewall that is installed by default. This is often referred to as a one way firewall. When you are on the internet, you are using a protocol called TCP/IP. This protocol uses an address and a port to open up a path between your computer and the website. Port 80 is used for website viewing but is just one out of 65,525 available ports. We will explain a little more of this protocol the next chapter. If you do not close the other 65,524 ports, a hacker can hack into your computer and install viruses and other programs. The firewall is the program that closes the ports you are not using and opens the ports you need. This is done automatically and does not require any user intervention. A two way firewall (one that blocks ports both incoming and outgoing) requires user intervention because a program can use any port to communicate over the internet in addition to port 80. For example, many email programs use ports 110 and 25 to send and receive so that you can do both simultaneously. Protection on the outbound ports requires user approval. When a new program tries to send information out, you will see a pop up asking for your approval. If it is from a program that you have installed, you should click allow. Most firewall programs will give you an option to permanently allow or temporary allow this approval. Make sure of the program you permanently allow. Vista does have the option two make the firewall both ways. Many find that the maintenance of the two way firewall too complicated. The free and commercial two way firewalls tend to be much more user friendly. To check to see if your firewall is turned on, use the following steps.

Windows 7:

1. Click on the Control Panel in the start menu.
2. Click on “Windows Firewall”.
3. Read the status of home and public networks.

Vista:

1. Click on the Control Panel in the start menu.
2. Click on “check the security status” under the Security icon.

3. Check to see if firewall, automatic updating, malware and “other security features are all on and green. If not turn them on.

XP:

1. Click on the Control Panel in the start menu.
2. Click on Security icon.
3. Check to see if firewall, automatic updating, and Virus protection are green.
4. Take action if they are not.

Week 2 Internet, Browsers and Browsing

Terms:

- Browser
- Website
- Hyperlink
- Favorites/Bookmarks
- Home Page
- URL
- TCP/IP

Be able to:

- Open your browser
- Change your home Page
- Add favorites/bookmarks
- Enable top menu in Internet Explorer
- Search the internet using the Browser search tab
- Change the default Browser search tab
- Use tabbed browsing
- Obtain help from a user group
- Use online tutorials

Internet Service Provider

To connect to the Internet you must sign up with a company that provides you with an internet connection. This company is called your **I**nternet **S**ervice **P**rovider (ISP). There are four basic ways to connect to an ISP. The first two are via the telephone company.

Dial up service uses a modem that converts the digital signal from your computer to audio tones. This system goes through your phone lines as audio just like your voice and ties up your phone as long as you are on the internet. The maximum speed of dial up is 56 kilobits per second. Since this works just like a phone call, you do not have to contact the phone company. Dial up ISPs will provide you with a CD that will configure your system to use the built-in modem in your computer. You can pick up these CDs in most stores that sell computers.

A faster method than the phone line is the DSL modem. This special modem that you can get from the telephone company or computer store uses your telephone line to work simultaneously with your telephones and computers. It requires the telephone company to install a DSL modem at its office in addition to the one that is installed in your house. The DSL modem will allow transfer of data up to 700 times faster than a dial-up modem. The speed will depend upon quality of the wires to the local office and what service that you purchased from the phone company. In addition to speed, another advantage of DSL is that it does not tie up the phone line for normal telephone calls. Sometimes you cannot use DSL because the wire between your house and the telephone company is not good enough for the DSL modem to work. In the Salt Lake City area, CenturyLink (Qwest) will sell you a package deal. In the past you had to find your own ISP and pay them and the phone company separately. You can still do that or buy the package deal.

The TV cable company (Comcast) will also provide connection and ISP services for a fee, but you will have to use a cable modem.

If you can't use DSL and don't have cable service, there are also Wireless Internet Service Providers that will provide a radio and antenna to connect to the Internet.

If you are really in the boondocks, there are satellite companies that provide internet service.

The World Wide Web

The internet started as a Defense project (DARPA) to provide Command and Control communications for the military in case of a major attack on the United States. The telephone system depends on major nodes (telephone centers) located in the major cities in the U.S. If one of these nodes were to be destroyed by natural disaster or war, the telephone company would have to manually re-route circuits via other nodes. This could take days or weeks depending on how many nodes were down. This is much too long in a war time environment, so a method that would automatically find an open path to get information from point A to point B was needed. The solution was to install equipment at all the telephones nodes that would accomplish this task. This equipment and the protocol written for this equipment became the internet after the Defense Department obtained the information needed to build the command and control system that would meet the military's needs. The protocol was called TCP/IP. This protocol sends a **packet** of information which contains the digital address of the computer calling and the address of the destination computer plus the data to be sent. The equipment at each node determines the least busy path from that location through the network to the destination. The address (called an IP address)is just like a telephone number, and every computer that is on the internet has a unique number. An Internet Service Provider (ISP) provides this number to you when sign up. Most ISPs bill on a monthly basis, but a few will bill on a yearly basis.

The ISP has the equipment to connect you to the internet and has leased a set of internet addresses that the ISP can lease to you.

Many of the cable modems and DSL modems include a **router** that will allow you to hook up more than one computer to a single modem. Pay a little more and you can get a modem that includes the router and a wireless access capability. This is handy if you have a second computer located somewhere else in the house. Modern laptops come with a wireless interface which will interface with these routers. If the second computer is a desktop unit, you will have to connect by a cable or buy a wireless adapter to talk to the wireless modem. A second advantage to a modem with a router is that you can send files between the computers. This is called a home network.

DHCP and DNS

A few years ago it would take a technician to set up your modem and network to talk to your ISP. Thanks to a program called **DHCP** (Dynamic Host Control Protocol) which is now part of Windows and most other operating systems, this is now done automatically when you plug your hardware together. This program will request and install your TCP/IP address and obtain the address of your Domain Name Server (**DNS**).

The DNS is a computer on the ISP's network that translates the text that you put into your browser into the actual destination TCP/IP address. It's like calling information for a telephone number except the computer takes care of getting and calling the number for you. The text that you type in your browser is called a **Uniform Resource Location**. The URL is made up of the domain name and directory location. For example, the main web site address for Microsoft is www.microsoft.com. In this example "Microsoft.com" is the domain name. By convention, the location of the first page of a web site is www. It does not have to be www and Microsoft and other big companies have other websites that begin with other letters and words. The suffix .com is known as the **Top Level Domain** and describes what type of website it is in the US or which country in countries other than the US. Examples are shown below.

.com = commercial

.org = non-profit organization

.gov = government

.edu = Educational institutions

.mil = Military

.net = Network organizations

.ca = Canada

.de = Germany

.th = Thailand

When searching for information, these suffixes can be very helpful to determine how much you trust the information from that site.

In 2011, ICANN (Internet Corporation for Assigned Names and Numbers) decided that you could purchase your own top level domain. The application fee alone is $185,000, and the annual fee is $25,000. So you can design your own domain.

So what is the World Wide Web / Internet

Your computer with your TCP/IP address

A connection to the Internet via an ISP

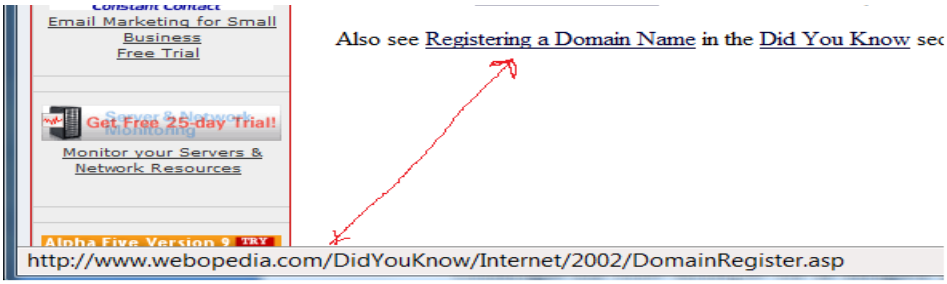
DNS servers to convert your browser request to an internet address

Routers that direct the flow of traffic to the next location (Node)

Computers from companies, government, organizations and individuals who have software to respond to requests for information, i.e. websites.

More individuals like you that also have a TCP/IP address

The http:// you see in front of the URL is the protocol that is being used for that site. The most often used protocol on the internet is http, which stands for Hyper Text Transport Protocol. Hyper Text means that some text has special meaning. Most browsers change the color of this text to blue and underline it to let you know that it is Hyper Text (also called a link). If you put your cursor on this text or icon, it will change to the shape of a finger pointing hand. Icons can also be hypertext. If you click on this text or icon, it will take you to another location on the web or website. Look at the status bar at the bottom of your browser and you will see where clicking will take you. In the example shown below Registering a Domain Name would take you to:
www.webopedia.com/DidYouKnow/Internet/2002/DomainRegister.asp



In addition to http:// you will see **https**:// which is the secure (encrypted) version of the hyper text protocol. Make sure you see this in your address bar before you enter any sensitive information on the internet. If you are downloading a file from a site, you may see ftp:// instead of http://. This is the **F**ile **T**ransfer **P**rotocol and will download files much faster than the http protocol. The slashes you see after the suffix tell the browser where to go on the website. Each page has its own location, and the slashes separate the names of the folders where the pages are kept. In the above example the file name "DomainRegister.asp" would be the page you are looking at if you went to the hyper link. The .asp tells the browser in which computer language the page was written. There are many languages that the computer needs to know now; originally there was only .htm (hyper text markup) but as the demand for features like animation and interactivity have increased, new computer languages have been developed. If you have an old browser, you may not be able to see what's on some websites because it does not support the latest language.

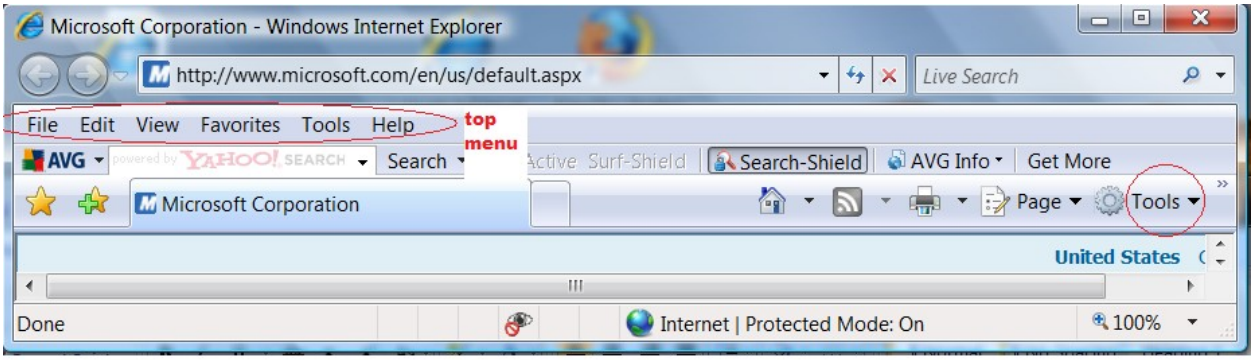
Browsers

A browser is a program on your computer that converts the languages used on the internet to something we can see and understand on our computer. If you are using a Microsoft operating system, you will have Microsoft's "Internet Explorer" on your computer. It uses a lower case "e" as its icon. Below are the icons for Internet Explorer, Mozilla Firefox and MSN. Don't confuse the website www.msn.com with the enhanced browser that the **M**icro**S**oft **N**etwork ISP provides its customers. You can use any browser to go to the MSN website.

There are several more popular web browsers on the market that will work with Windows such as Chrome and Opera, and each has some feature that attracts its user. For example Mozilla Firefox has special tools to download, manage, and find downloaded files. Other operating systems like Apple OS X and Linux also have compatible browsers. All have common features such as being able to save your favorite website so that you can go to a specific location without typing in the address. In Internet Explorer it is called "favorites" and in Firefox and some other browsers it is called "Bookmarks". In the example below, the top menu has been circled and you can see Favorites listed.

By default the top menu was hidden in the latest version of IE. To get it back, you will need to click on Tools on the right side and click on Menu to turn it back on. Above the top menu you can see the address bar with the Microsoft web site typed in. The little black down arrow  at the end of the address bar will allow you to look at the addresses of the site you have been to recently.

The  icon allows you to refresh the website. Sometimes if a website does not complete its downloading, clicking on this icon will help. The red x next to these two icons will stop the download if you don't want to continue. At the right of these icons you will see a box that allows you to search the internet using Microsoft's Live Search engine. Enter what you are searching for in this box and hit enter or click on the magnifying glass to start the search. The next to the magnifying glass will allow you to add and change which search engine is used when you type in this box.

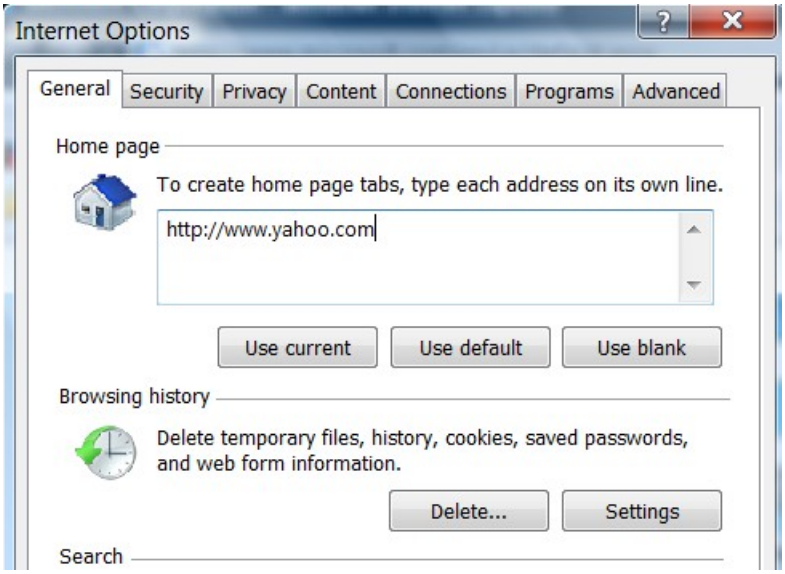


Below the top menu you will see some features that may not be installed on your machine. Many programs that you download will want to include **add-ons** to your browser. In the example above the anti-virus program AVG has added its tool bar and a Yahoo search windows has also been added. Clicking on the star below AVG icon will open the Favorites folder, and the star with the plus will allow you to add and organize your favorites.

If you do not want to clutter up your tool bar, you can go to any search engine by just typing in its address, for example, www.yahoo.com or www.google.com. You can also choose one of these search engines as your home page. The **home page** is the first page that the browser goes to when you open up your browser. If you normally go to a certain place on the Internet, it makes sense to make this your home page. To do this, you click on "Tools" on the top menu and click on "Internet Options" at the bottom of the window. This will bring up the window shown below.

You can type in the address as shown, or if it is a very long address it is easier to first go to the web page you want and just click on the "use current" button. This will put the current web page address in the block above.

Notice that this window has several tabs, and you can change all of the default settings by clicking on the appropriate tab. In addition to using a web page as your home page, many websites offer you a web page you can tailor to provide the information you want to see without browsing. Examples are MyMsn and My.Yahoo. These sites store the links to the features that you want in cookies.

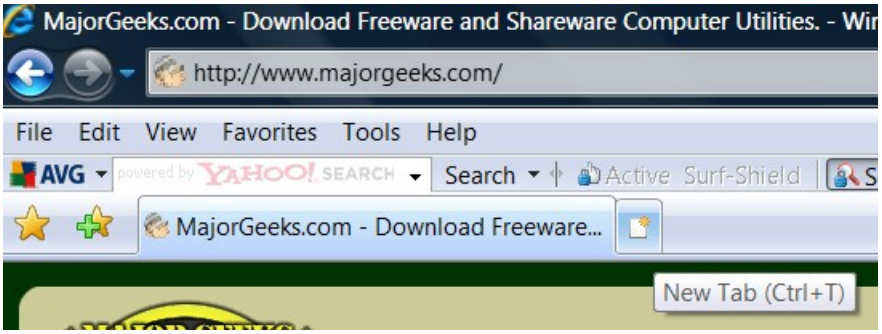


Windows XP, Vista and 7 include a shortcut to your favorite browser at the top of the start menu. If you have the quick launch feature turned on in your task bar, you will also have an icon for your browser there. Clicking on either icon will bring up your browser and connect you to the internet. If you have a dial-up connection, the computer will dial the ISP and connect you automatically. Some of the lower cost or free dial-up ISPs will have their own shortcut icon, and you must use their browser to connect to the internet. They do this so you will receive ads via their browser that support their company. DSL and cable ISPs are always connected and all the computer does is open the browser.

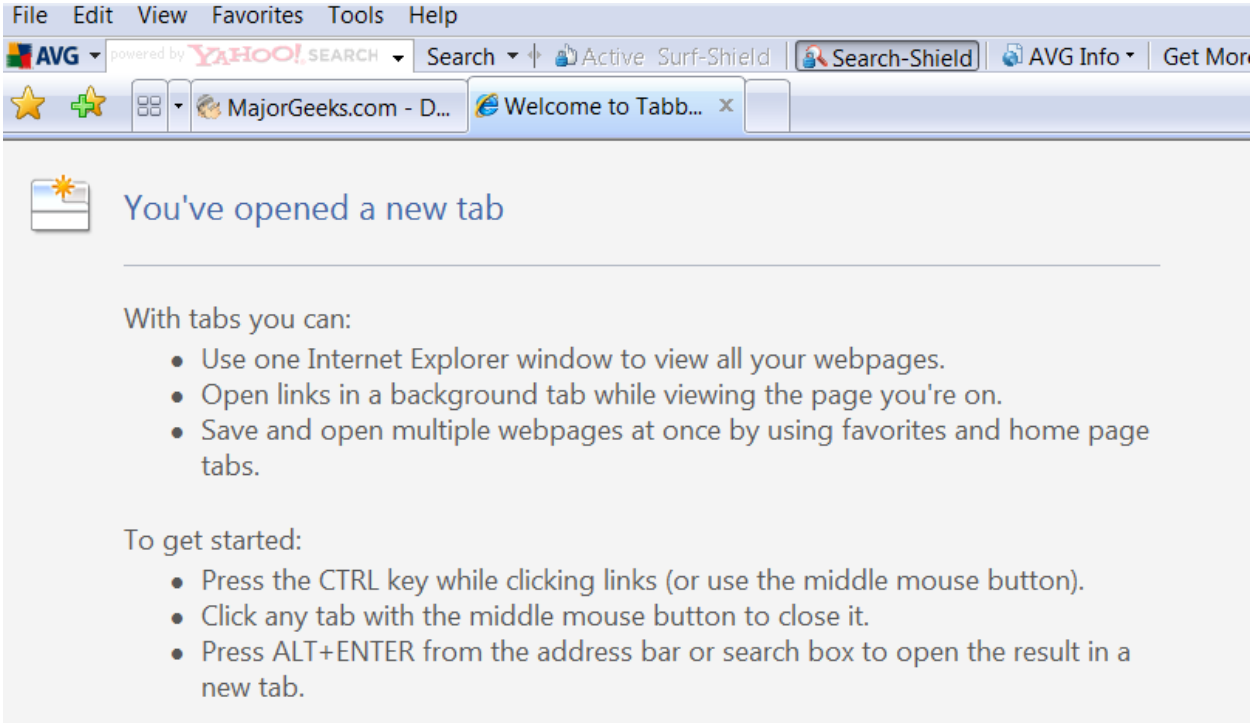
Tabbed browsing

If you are going from page to page, you can retrace you path by clicking on the arrows in the top left corner of your browser. The forward arrow will not light up until you have backtracked. This is handy but will not allow you go to different sites without reloading the pages.

To solve this problem, most browsers now support tabbed browsing. If you look at the figure below just below and to the right of the tool bar you will see a tab. If you hold your mouse curser over this tab, it will show you the keyboard shortcut you can use to open this tab. Or, you can just click on the tab.



Once you open this tab you will see the screen below.



To go to any new web site, just type the address in the address bar or use the favorites list to go to a favorite website. When you do this, a new tab will appear if you want to go to a third or fourth site. To get back to one of the previous sites, just click on that tab. Some sites will now open a new tab when you go to another page.

Tutorials

There also are many websites that will provide you tutorials on many subjects. To re-enforce what you learn in class, you should visit www.learnthenet.com Sites like these exist because of the ads they display on the screen. Make sure you stay in the tutorial and don't click on one of the ads. Microsoft and Open Office both have websites that provide tutorials on how to use their products. If you are having problems with any software you have purchased, be sure to go to that web site to see if they have a tutorial.

Support Groups

If there are no tutorials available online, you want to search for a Support Group. They may also be called a user group or user community. These websites may be sponsored by the manufacturer or grow on their own. When you log onto a support group website, you will see a list of current topics and will have a search block to allow you to search the website to see if your problem has occurred before and what responses were obtained. If you don't get a hit on your first search, try using different key words. If you don't find anything after several searches, you can **post** a question. You will have to provide an email address or join the group to post a question. This is another good place to use your public email address. It is a good idea to have two email addresses, one you give your friends and a public address that you give out when required. Use the email addresses you get from your ISP for you private address and obtain a free address from one of the http providers. Be aware the answer you get is from another user and may not apply in your situation. I have received answers within a few minutes, several days, or never. The best thing to do is check back the next day.

Week 3 Services on the Internet

Terms:

IM

Buddy list

Contact list

Post

Be able to:

Search the internet

Search a website

Search a web page

Download and install a program

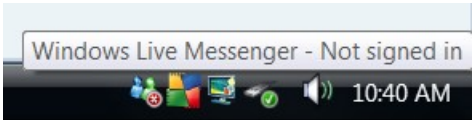
Messengers

One of the services available on the Internet is instant communication between you and someone you have selected. This is called **I**nstant **M**essaging (IM). The AOL messenger was one of the first that made this type of communication possible. Today there are dozens of these kinds of services. Windows comes with Windows Messenger, and both Google and Yahoo offer this service. If you are using Qwest DSL service and the MSN premium browser that comes with this service, you are already connected to the messenger service. These services work by logging you in to a server that keeps track of everyone that is logged in at that time. It then compares your **Buddy List** (AOL) or **Contact List** (Windows Messenger) with whoever else has logged into this service. The server then sends you a message of who is on line. This is normally in the form of a pop-up. If you want to talk to a person, you just click on the name.

How you talk to that person depends on the equipment that you have installed in your machine. With no equipment you can type messages back and forth.

With a microphone plugged into your computer, you can talk. Install a web-camera and you will be able to see and talk to the other party. The Buddy or Contact list is the email addresses that you have listed when you installed the messenger program. You can add or delete people on this list at any time.

Below is a screen shot of the notification area of the task bar with the cursor paused over the far left icon. This icon is for Windows Messenger or Windows Live Messenger (the latest version).



If you are not signed in, you can click on this icon and it will bring up your sign on the screen. You sign-on using a http email account. If your email account is with a POP3 server, you will need to generate a new one. If you are going to use Windows Messenger, you should use a hotmail or Live ID account, although any http mail account will work.

Hotmail is the original name of Microsoft's http mail service. This has been replaced with the Windows Live Mail, and accounts generated under the old Hotmail system are automatically accepted. If you are going to use Yahoo or Google, you should consider getting an account with them. All of these are free services. One of the limitations of the messengers mentioned so far is that they only allow contact with others that are using the same service. There are other messenger programs that will sign you in to multiple messenger servers at one time, allowing you to have instant messaging with friends who have signed up with other messenger servers. Currently, these multiple sign in programs have limitations and are only designed to work with text and not video. Some will support audio. If you have relatives or friends that live long distances away, this is an excellent way to permit contact at no cost.

Skype is a program that performs Instant Messaging between people logged in to their service. They also have a paid service that allows you to make and receive unlimited phone calls and faxes to any telephone in the US for a fixed fee each month. There is no obligation to use their phone service if you use the IM service.

Searching the web

To search for something on the web, the browser includes a search block for the selected default search engine. Just typing in what you are looking for and hitting return will provide you with the results of the search engine. Generally

there will be more pages of results than you ever will be able to browse. Fortunately, the search engines will provide you with the most likely results first. There are several ways to increase the probability of finding the answer you want without going to thousands of sites. The first is to include enough words in your search to narrow the search. For example, if you want to find the schedule for trolley cars in San Francisco, you include the key words (Trolley, cars, San Francisco, and schedule in the search block. Since the search engine searches for each word and does not care what order it is in the document or where, there are ways to reduce the number of hits you receive. The first is to enclose "San Francisco trolley car schedule" in quotes. The quotes tell the search engine that this phrase must occur in this exact order.

Perhaps the most useful feature in defining search criteria was **Boolean operators.** They provided you with powerful control over search engine logic. The Boolean operators **AND**, **OR**, **NOT** were the most popular and had to be capitalized to distinguish them from normal words. Recently, most search engines have dropped the Boolean operators and instead have provided an "advanced search" option. If you select this link, it will provide you with boxes that perform the same function without you having to know Boolean algebra.

In general you do not capitalize words in the search block and the engine will return words that are and are not capitalized. If you do capitalize a word, it will not return results that are not capitalized. This is handy if you were looking for the country China and not looking for china dishes.

While the search engine like Google, Ask, Bing, Yahoo, Live Search and others search **the entire web**, some sites provide a **search** box for **their site only**. If you were trying to get some help on a Microsoft product, going to the Microsoft web site and clicking on the local search engine will provide fewer and more accurate hits. In the example shown below, if you type in your question in the box and hit enter or click on the magnifying glass you will search Microsoft Tech Net areas only. If you do not get your answer there, you can then click on the web icon and it will search the web.

This feature is also provided at most shopping sites. If you go to the Wal-Mart web site, you will get a search box that allows you to search the entire Wal-Mart site or a given department

Some web sites do not provide a search box, so google provides a capability to restrict their search to a **single web site**. In the google search box enter site:sandyseniorcenter.org "special events"

The site command tells google to restrict its search to that one site. The quotes tells google to search for those two words in that order.

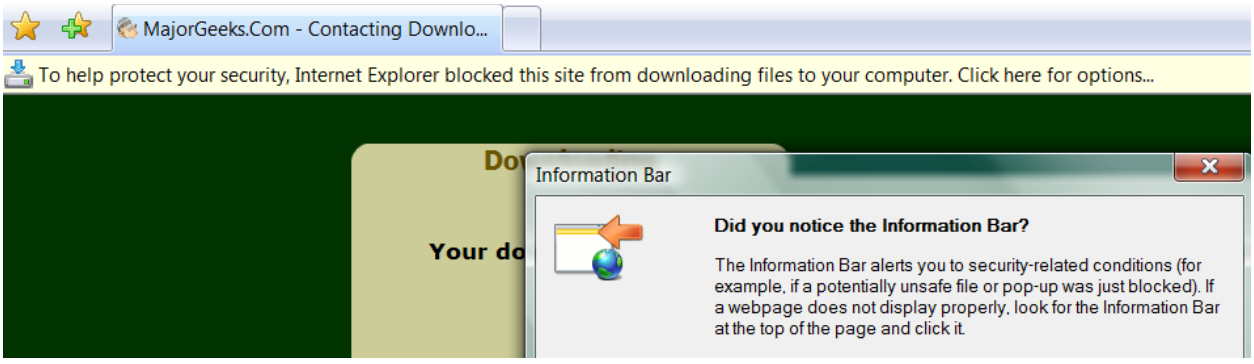
Sometimes you will get a long web page that you do not want to read word for word to find what you think is on that page. Then you should use a fairly common windows function to do a search. Most programs and therefore most browsers support the **ctrl-F** (find) capability. By holding the crtl key down and pressing the **F** key, the browser will bring up a search box that will search only the web page that you have displayed.

Downloading

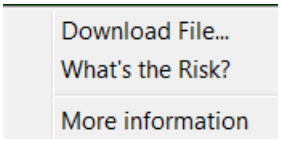
Earlier, we covered updating your computer to keep it current. The operating system and anti-virus programs will do the downloading and installing automatically. Some other programs that keep your browser add-ons up to date will also do this. Examples are Flash Player, Java, and Quick Time. When you go to a website that needs the latest version of these add-ons to display the web site properly, you will get a pop up asking if you want to upgrade.

However, most programs will not automatically upgrade so you have to do this manually. Also, there are many free programs on the Internet that you may want to download.

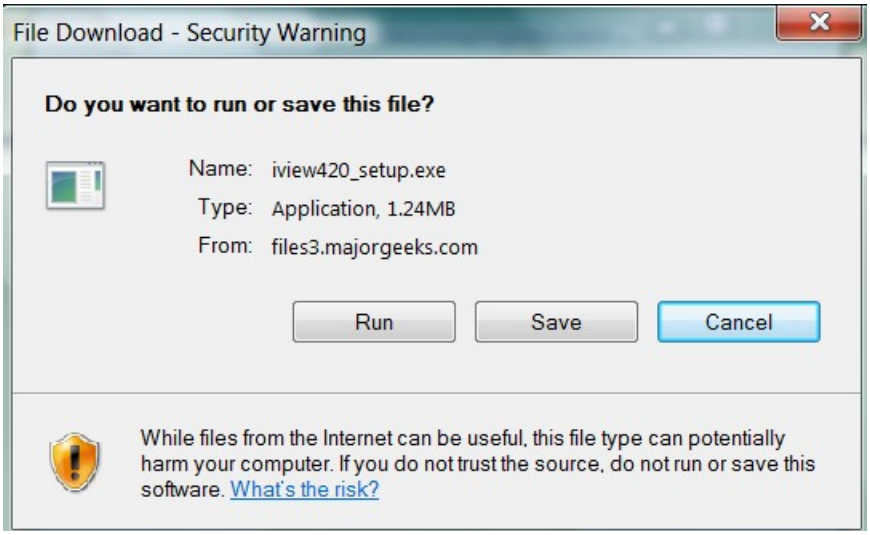
First, we will cover upgrading your programs. When you purchase a program, you buy a given version like 5.0. As people use the program, they find this program does not work as advertised in certain conditions. The manufacture will use this information to revise the code and issues an update. The update may be called 5.1. Over a period of time the revision number will grow as more problems are discovered and fixed. So as long as version 5 is supported (normally for several years after a new version is released), you can download and update it for free. If a version 6 comes out and has new features that you need, you would have to purchase it or just live with the old version. Sometimes they will offer an upgrade to the new version at a lower price. To download the latest update, you will need to go to the manufacture's website. Look at the Help menu in the program or the literature you received with the program for the websites address. Go to the website and look for their download tab. When you find the hyperlink describing the download for your version, click on it and follow the instructions. For your protection when you go to download something from the Internet, Windows Explorer will block it. You should see a notice bar pop up near the top of the screen. If you click on it as it says, you will get a second pop up that gives you three choices. See below for examples. Click on Download file and you will get another window. On this window you will have the choice of run, save or cancel.



First screen



Second Screen



Third Screen

If you choose **Run**, the program will download to a temporary file on your computer and then install itself.

If you choose **Save** it will bring up another window that will allow you to decide where you want to save it. A convenient location is the desktop if you keep your desktop clean. You may want a download folder in your Documents folder to keep these files.

The choice you make should be based on several factors. If you are on dial-up, or it is a large down load, choose the Save option. If you choose the **Run** option and the download is interrupted for any reason, you may get a partial install that will be difficult to remove. Even with broadband, you may want to use the **Save** option to be able to install this program on another computer or re-install it if your computer crashes. If you use the **Save** option, you will have to go to that location and double click on that file to install it. Many times the downloaded file will be compressed. Depending on the compression program, it may uncompress automatically or Windows will decompress it and ask you where you want to save it. If the latter is the case, you should store it someplace other than the desktop. The reason for this is that the uncompressed version may result in a dozen files or more. Deleting these files may be a problem if your desktop is full of other shortcuts.

In addition to updating your programs, the Internet is full of programs that you may want. Instead of going to the store and buying a CD, you can buy, download, and install commercial software over the internet.

There are also programs that can be lumped under the name of shareware. There is **trialware** which you can use for a number of times or a number of days. They then disable themselves. Other **shareware** programs allow you to download and use free for a period of time. If you decide to keep the program, you are asked to contribute a sum of money to the author for the program. But they will continue work. There are **freeware** programs that never ask for a contribution.

The free programs exist for several reasons. The most obvious reason is that large companies will generate a stripped down version to get you hooked. These versions are generally more than adequate for the home user and are often restricted for home use only. Anti-virus and Firewall programs are good examples of this. This is also a low cost way for a software writer to get into the business.

Where to download these files is the next decision you need to make. It is best to go to well known sites that will review the software first and check for hidden viruses and spyware. Check the sites of popular computer magazines and software vendors like Microsoft. These sites change over time, so ask your instructor what sites he recommends. I used to recommend www.pcworld.com and still use it, but the numbers of sponsored ads tend to confuse the newcomer. The www.majorgeeks.com website also checks for virus and spyware. Some other sites are www.download.com and www.tucows.com. Some excellent free software comes from universities and non-profit organization. A professor may create a group project in order for his students to create a specific program. The popular Netscape browser started this way. The current Mozilla Firefox browser and Thunderbird email program also started this way. The Open Office Suite is a good example of a non-profit organization maintaining a set of software that was originally developed by Sun Microsystems.

Week 4 Email

Terms:

Stationary

Spam

Emoticons

Be able to:

Send and receive emails

Add an attachment to your email

Save attachments from your email to another location

Save emails in a separate folder

Print an email.

Sending and receiving email comes in second only to browsing the web itself. When you send an email, it arrives at its destination server within seconds. In addition to providing a TCP/IP address for you, your ISP provides you with email service. This service is normally provided in one of two methods. The first is the POP server. This is a computer at the ISPs location that uses the **P**ost **O**ffice **P**rotocol. The current version is revision 3, and you will hear the term **POP3** used to refer to this kind of email.

A similar email version to POP3 is **IMAP** and most ISPs that use POP3 also support IMAP. The primary advantage of this type of mail service is security because the email is kept on a local server and not the Internet. The primary disadvantage of this type of email is that you must be in direct contact with your ISP. If you are vacation or business somewhere else, you cannot get your email. To overcome this, some ISPs that use POP3 as their primary mail server will also provide a link to the POP3 server from the internet.

The other type of email server is called http mail or **webmail**. Yahoo, hotmail, AOL, MSN and Google are the top players in this field. The major disadvantage

is security and the biggest advantage is availability. Any computer on the web in any location can be used to send and receive email to your address.

The email address takes on the form of username@ISPdomainname. The username is whatever you choose **if** no one else at your ISP has already chosen it. The @ symbol is the character that says this is an email address and not a website address. The ISP domain name is like yahoo.com, or Comcast.net. CenturyLink (QWest) uses q.com.

Choosing a username is important. Using your name is not a good idea. Spammers are people who send email trying to sell you something or run a scam. They use programs to generate email addresses using different combinations of names and numbers. **Spam** is the electronic version of junk mail. Spam contributes to more than half of all internet traffic. This is another reason for having a public email address.

A good username is like a good password. Initials with punctuation and a hobby or something that your friends will associate with you (jws>skater) is better than name with numbers (bob1324). The username cannot contain any spaces, or reserved characters like @, ? or *. In addition to your username you will need a password. In passwords both uppercase and lowercase letters are allowed by some ISPs and a mix of both upper and lower case letters, with numbers and punctuation will give you the strongest password. Do not use the same password that you used for your computer. For home use, don't be afraid of writing down your password and username for all of the places you need them. If you have children or other people who should not have this data, store this information in a safe place. Do not put it in your computer unless you use a program that encrypts it with a master password.

It is a good idea to have two email addresses, one you give your friends and a public address that you give out when required. Use the email addresses you get from your ISP for you private address and obtain a free address from one of the http providers.

For a web based (http) email account, you only have to sign in (log in) to your account using the email webpage, username and password. To use pop3 email, you will have to set up the account in accordance with the email program that you are using. Outlook Express email client has been provided for all Microsoft operating systems since Windows 95. It supported both pop3 and http email. Vista does not include Outlook Express and comes with

Windows Mail, which only supports http email. The Microsoft Office suite comes with Outlook, which supports both, plus several other formats. Windows Live Mail is a free download that supports both and is available for Windows XP, Vista, and Win 7. Even if you only have http email accounts you may find that an email client (program) is still handy to use because you do not have to get on the internet to read old emails.

Setup

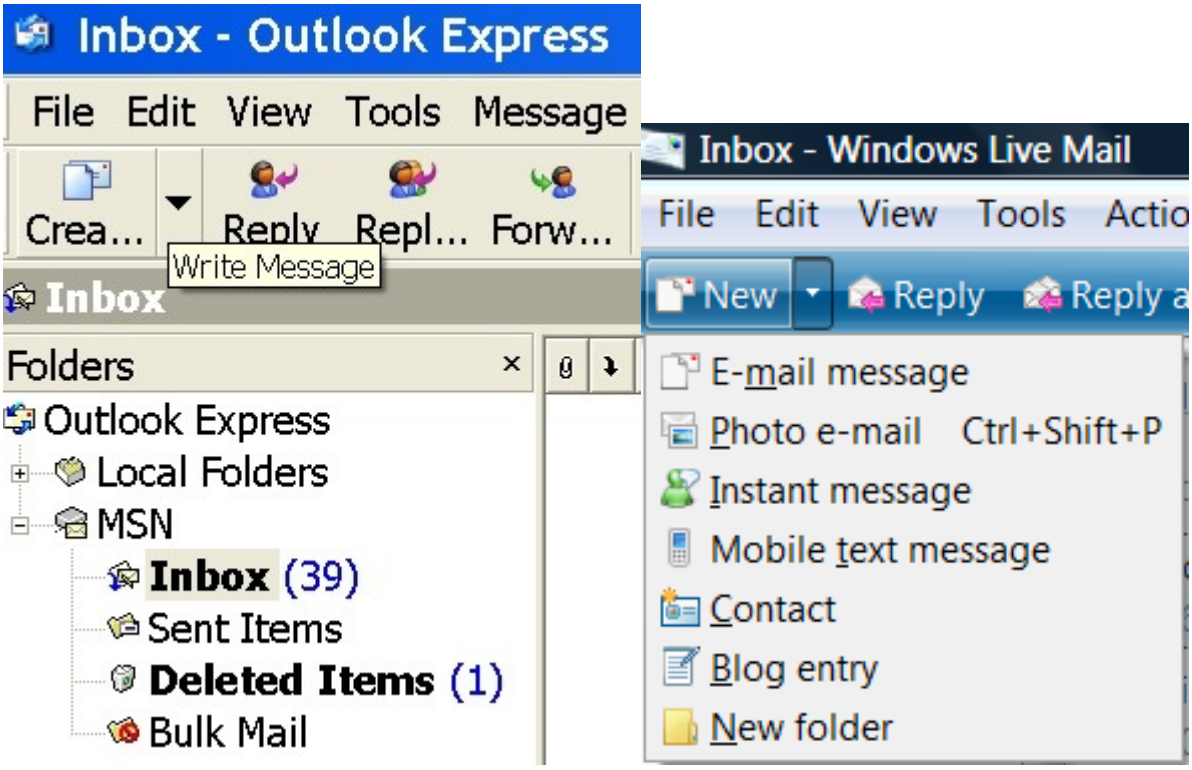
To set up a pop3 email account, you will need the following information:

- Email username
- Email password
- Pop3 address - typically pop.domain_name or mail.domain_name
- SMTP address .typically smtp.domain_name or mail.domainname
- What authentication is required

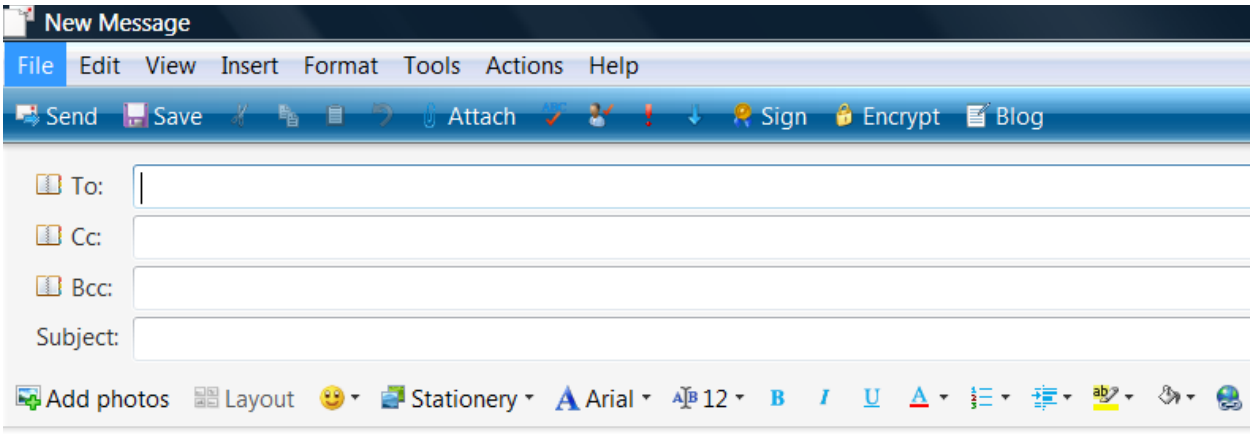
The information for the last 3 items will be supplied by your ISP. This information is normally posted on their website with a step by step tutorial on how to set up the popular email clients. Many ISPs will also provide a CD that will set up your email client automatically, and all you need to provide is the username and password that you created. **If not call them**. The email client is actually made up of two parts, one that sends and one that receives i.e. **P**ost**O**ffice**P**rotocol and **S**imple **M**ail **T**ransport **P**rotocol.

Sending and Receiving Email

You are now set to send and receive email. Open your email client or webpage and sign in (log in). At the top there will be an icon or menu item for **new mail**. Some clients may call it **compose** or call it **write**. Both Pop3 clients and web mail sites allow you to save your friends email addresses in an **address book**.



Above are examples of Outlook Express (left) and Windows Live Mail right.



Above is the new message box for the Window Live Mail client.

If you don't have the address in your address book, you type in the email address in the To: field: instructor@sandyseniorcenter.org

If the address you want is in the address book, you click on the open book icon to the left of the cursor. You would then double click on the person you want to add. You can put more than one person in the To: address block by separating them with a semicolon. Some mail programs also allow the comma as a separator. If you use the address book, the address will input as an underlined name, which will be replaced with the real address when the email is sent. If you manually input, it must be in the email address format.

You should put in a subject name. For extra security you may want to add a **code word** that you and your friends have agreed upon. This way, if you get a virus that sends spam or viruses to everyone in your address book, your friends will know that it is not really from you.

If you are concerned about an email that is in your inbox list, you can look at it without opening the email. Right click (DO NOT left click,as this will open it) on the item in the list. You will get an option menu and what you do next will depend on the mail reader or the webmail provider. For Gmail you left click on "View Page Source" This provides page of html code with email headers and the body. If there are pictures or a program (which could be a virus) you will see a bunch of lines that look like this:

```
YXNzUGFyZW50EADAKUAACUNsYXNzSW5mbxMA+ChAAAxJbnN0YW5jZVNpemUTALApQAAMSW5oZXJp
dHNGcm9tDwDIKUAACERpc3BhdGNoFADwKUAADU1ldGhvZEFkZHJlc3MRADwqQAAKTWV0aG9kTmFt
ZRMAeCpAAAxGaWVsZEFkZHJlc3MVAMQpQAAORGVmYXVsdEhhbmRsZXISAKwoQAALTmV3SW5zdGFu
Y2UTANQoQAAMRnJlZUluc3RhbmNlB1RPYmplY3SNQADDjUAA/yUg0UAAi8D/JRzRQACLwP8lGNFA
AIvA/yUU0UAAi8D/JRDRQACLwP8lDNFAAIvA/yUI0UAAi8D/JSjRQACLwP8lBNFAAIvA/yUA0UAA
```

A few lines is of no concern, but several hundred could be a program.

For Yahoo mail, you left click on "View Full Header". Here you can only look at the header information, so you can verify the sending and receiving addresses and also some routing information.

For Hotmail, you left click on "View Message Source". This will show a page of html code with email headers and the body. If you see the lines described above, there is also additional information. The line Content-Type:image/jpg would indicate a picture and Content-Type:application wound indicate a program.

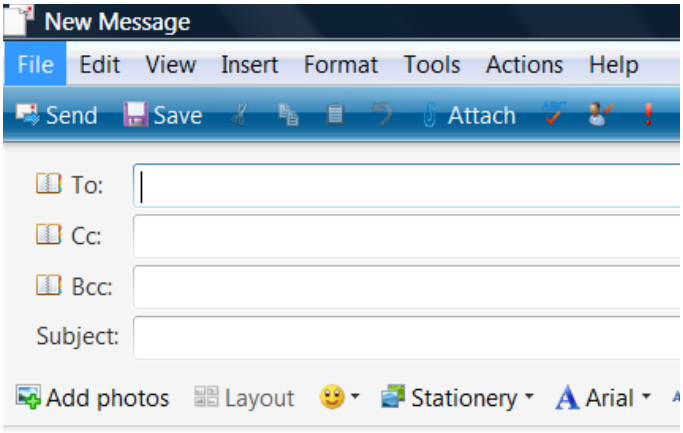
If you are using Windows Live Mail, you right click on the item in the inbox list, then left click on “Properties”. A left click on the “Details” tab will display the email header with the routing information. At the bottom, you click on the “Message Source” button and you will get the contents of the email. Again, you may see the lines described above if there is a picture and also the line Content-Type:image/jpg

CC and **BC** are Courtesy copy and Blind Copy. CC is normally used in business to indicate the email is for information only and the To: address is the person expected to take action. Addresses put in the BC box will only show up for the addressee and not to anyone else. This is used when you want to protect your friend’s email address from others.

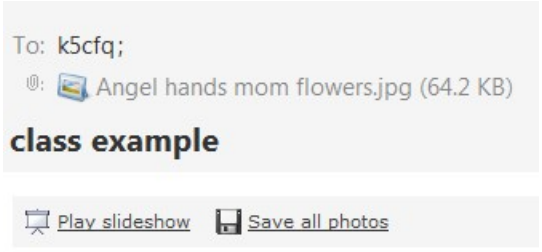
With the addressing and subject done, you can start writing your email. If your email program does not have spell check or if you are using dial up Internet, you may consider using a word processor and composing your email before you get on line. Use copy and paste to transfer from your word processor to your email.

Attaching Pictures or Files

Sending pictures has become so popular the latest Windows Live mail program provides you four ways to add a picture. On the figure to the right you can see **Insert** on the top menu bar, a paperclip **Attach** icon on the tool bar and a **Add photos** icon just below the Subject line.



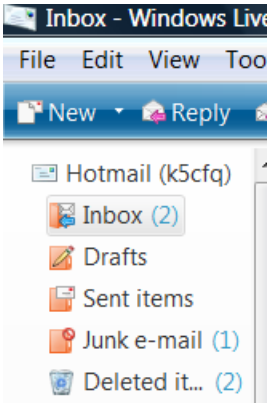
The **Insert** drop down menu form the top menu bar will allow you to insert or attach a photo into your email. Insert means it will show up with your text in the message box. Attach means it will remain a separate file or files that will show up below the Subject line in the email. An example is shown to the left. Notice below



the subject line is an extra line that shows a paper clip and the name of a file "angel hands mom flowers.jpg". In this same email a picture has been inserted in text box of the email. The two icons above the picture (*Play slideshow* and *Save all photos* has been added by the new Windows Live email program. If there were several picture attachments instead of just one, *Play slideshow* allows clicking on the first icon, and it will show all the pictures in sequence. The *Save all photos* icon will allow you to select a location to save all of the attachments. Older email programs would not provide this feature.

Unless you have a special reason not to, the attachment method is the preferred way to send. This allows the recipient the choice of opening the file after he has scanned it for viruses. How you save an attachment varies based upon the email program you use. Try a right click on older email programs and look for a "**save as**" option. If available, this option will open a dialog box which allows you to select where to save. If the picture is embedded in the text, you will have to right click and select copy. This puts picture in your clipboard. Then you have to open up a graphics program like, paint, irfanview, or Photoshop to paste. Once you have it in this program, you can use the normal save to file method supported by that program. This is just another reason to use attachments instead of imbedding photos.

Email programs have a recycle bin that is independent of the recycle bin on your desktop. When you delete an email it goes to the **deleted files** or **deleted items** folder in the email program not the computer recycle bin. If you are using an http email system, the provider will empty your deleted files folder on a periodic basic. Hotmail does this on a weekly basis; others use 2 to 4 weeks before they are permanently deleted. Until they are deleted by the server, you can move them back into another folder. On Pop3 servers, they stay on your computer until you delete the files in the deleted files folder.

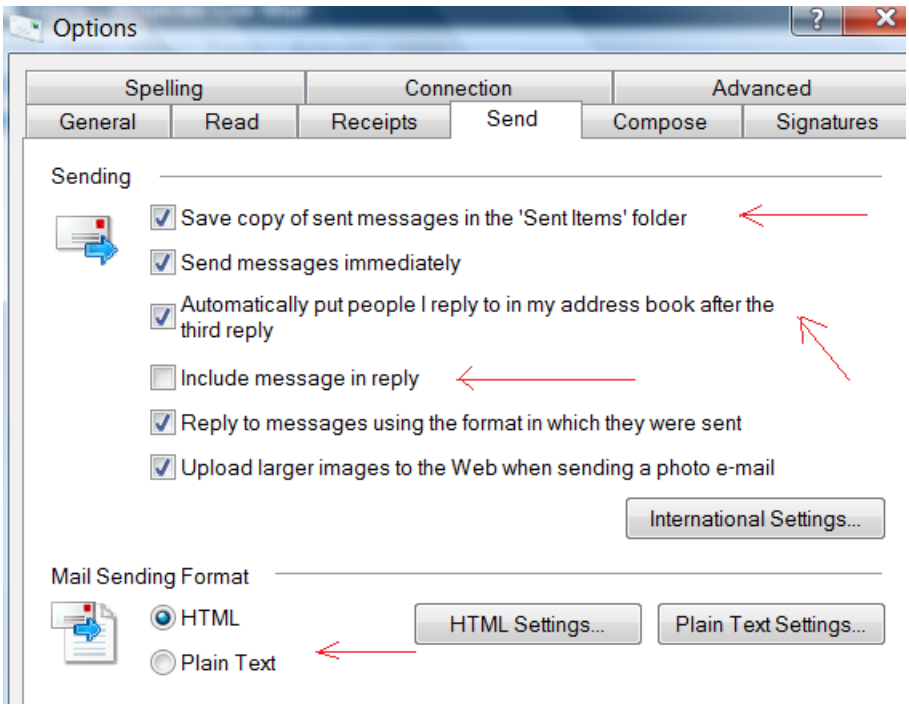


Email programs also have a **sent items** folder. This will keep a copy of all emails that you have sent. This is a requirement in business but an option for home users. You may want to disable this option to save hard drive space.

The **Junk e-mail** folder is where the ISP or you put emails that are considered spam. Sometimes the software that detects spam will make a mistake and put

a good email in this folder. It is a good idea to check this folder just to see if that has happened. If you have friends that tend to send mail to a large number of people, it is often detected as spam.

The **drafts folder** is where a message is kept if you start and don't send an email.



Above is the screen you will see if you click on the Tools – Options and then the Send Tab in Windows Live Mail. Arrows show the options you may want to change as discussed above. Automatically, I put people I reply to in my address book; this is also a handy feature. At the bottom of the window above you will see the option of HTML or Plain Text. There is also an option "Reply to messages in the format they were sent. If you are replying to a plain text email, you will not be able to insert pictures into that email. Cell phones that have internet connections may send in plain text only because this is a much faster method. Some user groups will not accept HTML emails because of their size.

Email etiquette

Avoid using all capital letters. IT MAKES IT LOOK LIKE YOU'RE SHOUTING! IT'S ALSO MORE DIFFICULT TO READ.

Avoid sending e-mail to large numbers of people unless you have a serious reason to do it**.** E-mail broadcast to many recipients may be considered spam and many ISPs will not send them.

As a courtesy to your recipient, include your name at the bottom of the message**.** The message contains your e-mail address (in the header), but the recipient may not know that the return address belongs to you, especially if it's different from your real name.

Don't write anything you wouldn't say in public. Anyone can easily forward your message, even accidentally. This could leave you in an embarrassing position if you divulged personal or confidential information. If you don't want to potentially share something you write, consider using the telephone.

Check your spelling!!

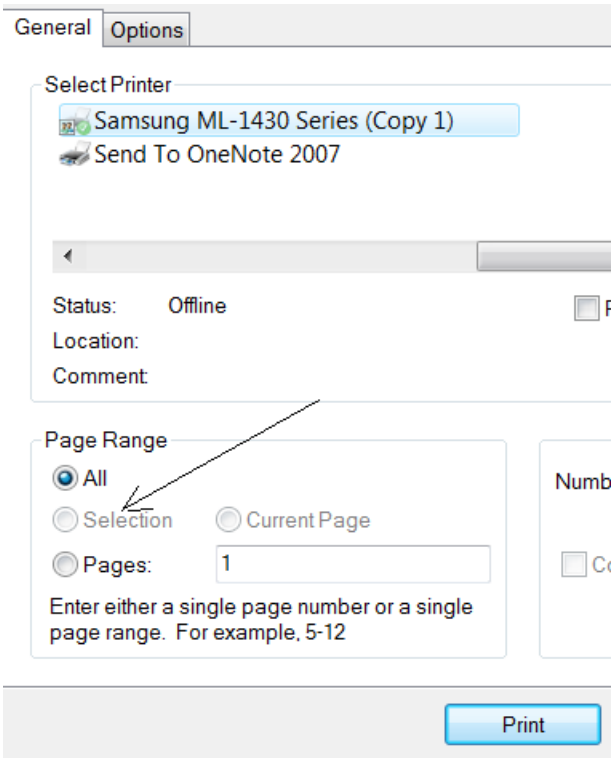
When forwarding an email, please, please clean it up first. After you click forward and the email is displayed, highlight (select) all of the headers, addresses, and delete. Also check the bottom for any unnecessary data and delete it also. Now send.

When replying to friends, please delete the original message. When replying to someone who is troubleshooting a problem, it is ok to leave the previous responses. I recommend changing the default value of retaining the default message to do not include the original message. They know what they sent you.

Consider the size of your email and the person you are sending it to. Dial up customers may not get your email because it was too large and the connection timed out before it finished downloading. If this happens, the recipient will not be able to receive any email until they call their ISP and have them delete it.

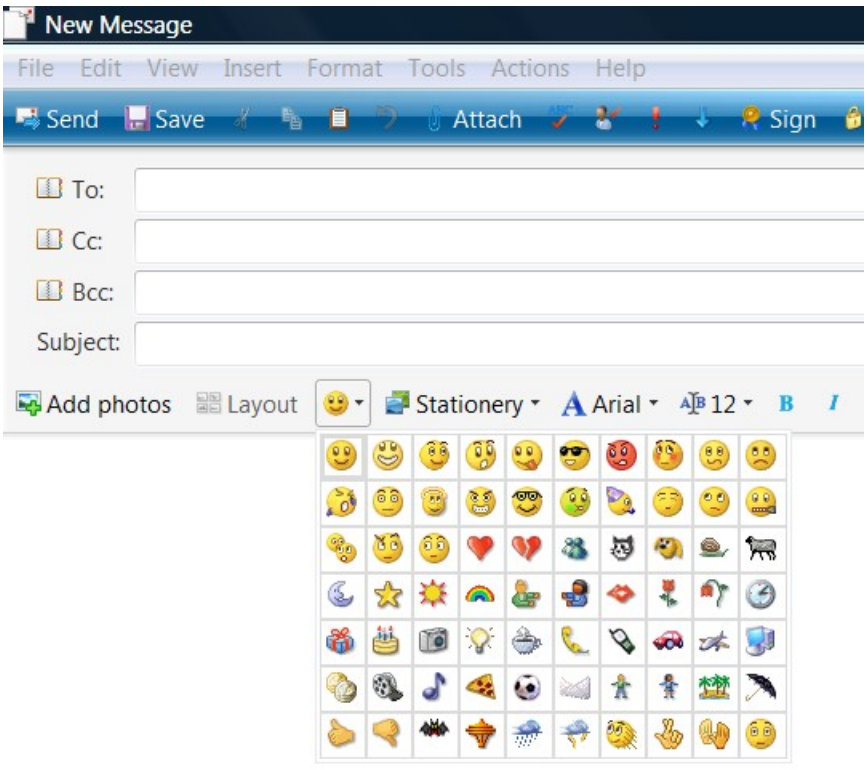
Use formats that most people can read. If you send a power point presentation to someone, they will not be able to see it unless they have Power Point installed on their machine. If it is real important for them to be able to view it, provide a website address where they can download a free viewer. If you know what programs the recipient has, convert your attachments into that format before you send. Use jpeg, jpg formats when sending pictures; this will reduce the size of the file and can be read by most computers.

Printing



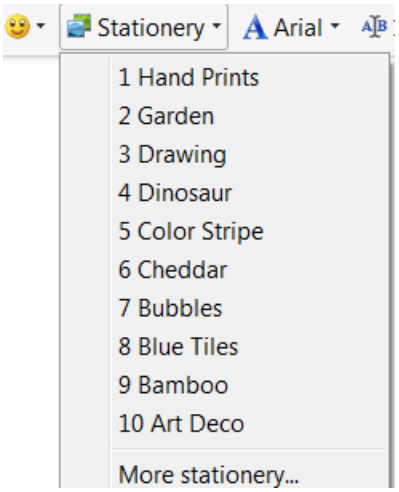
All email clients have a top menu and short cut item to allow you to print an email. However, if your friends have not obeyed the common courtesy guidelines or you just want to print a portion of the email, read on. Before you click on the print icon, highlight (select) the portion you want to print. Now click on the print icon or File and then Print in the top menu. You will then see a screen similar to the one on the left. Make sure the desired printer is selected and change the **Page Range** from **All** to **Selection**. Now you can click Print at the bottom of the window. As you can see from the figure, you also have an option to select pages and just print the page you want if it is a very long email.

Additional Formatting



Other options: Some people just need to be different and email programs support this need. I don't recommend these features except on special occasions. They increase the size of your email, and some people just don't like them.

The first is the **Emoticons**. The figure on the left shows the happy face selected and the emoticons that can be added. Some of these are even animated.



Just to the right of the happy face icon is the **Stationary** list. Click on the down arrow, and you will see a selection of fancy stationary you can choose. These are nice for special occasions like birthdays, and holidays. Here also is a place where you might want to insert a picture to make a nice card.

Helpful Web Sites

www.aarp.org/computers-howto/

www.compuskiss.com

www.newbie.org

www.sandyseniorcenter.org

www.seniornet.org

www.majorgeeks.com

www.pcworld.com

www.seniors.gov/computers.html

www.irfanview.com

www.microsoft.com/communities/usergroups/default.mspx

www.openoffice.org

www.learnthenet.com

www.mozilla.org