

Windows Primer

Windows Primer Fundamental Concepts Explored

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PRECURSOR

The purpose of this e-book is to provide a simple, user friendly perspective when operating Windows, [Internet Explorer](#) and [Outlook Express](#). The book outlines concepts and procedures, while providing a solid understanding of the Windows operating system.

Theories are further applied to illustrate how hardware and software coexist within the Windows realm. In each chapter, solutions to common dilemmas are presented which help to increase user productivity.

This e-book is written at a beginner-to-intermediate level. The following chapter introduces basic Windows concepts and exemplifies how objects are manipulated. This knowledge builds a solid foundation as concepts are reintroduced throughout the e-book.

HOW TO USE THIS E-BOOK

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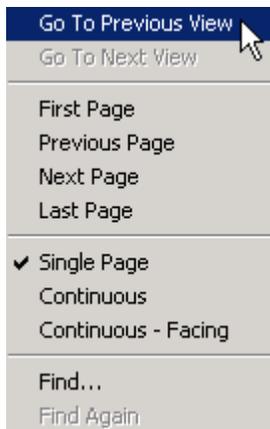
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Any **phrases written in red** refer to a picture next to the phrase. (Actions, phrases, or words, written in green with a round bracket around them) refer to Windows XP users only.

Words written in bold imply a special action, or refer to a key phrase presented in the Glossary. The [Glossary](#) is located at the end of the book.

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AMENDMENT: Windows XP Users

Please read carefully

Originally, the Windows Primer e-book was created with respect to Windows 95, 98, ME, NT and 2000 operating systems. Since the creation of the Windows Primer, Microsoft has released their latest operating system, Windows XP. In light of this, the Windows Primer has been modified to specially suit Windows XP users.

Since Windows XP is the sum of all previous versions of Windows, almost all operations defined in this e-book are identical to Windows 95, 98, ME, NT and 2000.

However, there are some discrepancies. Any notable differences for Windows XP users with regards to procedures or menu dialogue have been represented with a green colored font with brackets around the actions, word, or phrase.

For example, if you see (green text in a round bracket), it would describe a Windows XP only action, word or phrase.

Pictures in this e-book may not appear exactly the same on Windows XP, but are very similar

Most of the pictures included in the Windows Primer e-book were made with Windows 2000 (which is similar to Windows 95, 98, ME, and NT).

All pictures in this e-book refer to some action, word, or phrase. Windows XP users will find slight discrepancies in some of the pictures when comparing a picture to an action, word, or phrase being described.

While most pictures used in this e-book match almost exactly what Windows XP presents, any notable changes referring to the picture will be described in the text having the (green text in a round bracket).

[Click here for an example](#) of the Display Properties picture which has accompanying (green text in a round bracket) to infer a Windows XP action.

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CHAPTER 1: Windows Navigation

Navigation is consistent throughout Windows by the use of object manipulation. Since all programs rely heavily on similar manipulation methods, this chapter presents an essential cornerstone of learning.

i. Objects and their Type

All things defined within Windows are considered an **object**. An object can be an [icon](#), a sound file, a window, a picture, etc. All objects perform a specific function and are limited by their **type**.

An **object type** describes the nature of the object; it describes rules and boundaries. Objects are able to communicate and manipulate each other depending on their **type**.

For example, an object consisting of **type icon** is known simply as an icon to Windows. Object type defines what actions may be performed on the icon, such as: execute, delete, rename, move, cut and paste.

What happens when an icon is deleted is much more complex than what is seen by the user. Specifically, before an icon is placed in the [recycle bin](#), it must communicate with the recycle bin before it is manipulated in any way.

Before the icon is accepted or rejected to the recycle bin, its **type** is matched against the **recycle bin type**. If the icon is not allowed, the recycle bin rejects the object.

This is demonstrated by **attempting to move the My Computer icon to the recycle bin**. Obviously, this is erroneous and cannot be done.



This also explains why some objects can be manipulated in a specific way, while other objects cannot.

ii. The Mouse

The mouse is an input device used to navigate Windows. Most modern mice are equipped with two buttons and a [scroll wheel](#).

The Left Mouse Button

The left mouse button provides Windows with three primary functions: **select**, **drag**, and **execute**.

A single left-click will select or **highlight** an object.



An object is dragged with a click-and-hold technique. Place the left mouse button over top of an object, click, hold, and **drag** to its new destination.



To **execute** an object, simply double-click it.

The left mouse button is commonly referred to as a "single click, left-click," and sometimes, just "click."

The Right Mouse Button

The click of a right mouse button provides a special Menu, referred to as a **dialogue menu**. The dialogue Menu is always different and depends on what object is underneath the pointer when right-clicked.

For example, right-clicking an icon will produce a different Menu when compared to right-clicking an empty area of the [Desktop](#).

The right mouse button is always referred to as a "right-click."



The Scroll Wheel

The scroll wheel on a mouse is an invaluable tool when surfing the Internet. It moves screen contents up and down without the need to use a [scroll bar](#).

iii. Icons

An icon is an object which represents an executable function. Icons symbolize a picture, and function based on its relation to the picture.



For example, the **My Computer icon** looks like a computer; when double clicked, it accesses a list of files stored on the computer.

Icons are manipulated in a variety of ways. A single left-click of an icon will select it. Comparably, a single click on the text of an icon will **rename** it. To move an icon, drag it with the left or right mouse button. Double click an icon to execute its function.



A right-click of an icon will invoke an object Menu dialogue. Furthermore, an object which is right-clicked, held, and dragged will produce a Menu dialogue for an **advanced move**. It provides options to: Copy, Move, Create a Shortcut, or Cancel.

iv. Cut and Paste Techniques

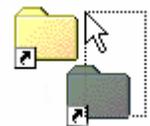
Objects are also moved using the **cut and paste technique**. When an object is "cut", it is placed into the **clipboard** – a temporary holding area. When it is time to paste the object, the object is released from the clipboard to its new location.

Cut

To place a **movable object** in your clipboard, place the mouse over top of the object, right-click, and select **Cut**. The object will appear grey, or "**ghosted**" when successfully placed into the clipboard.



To place **multiple objects** in the clipboard, navigate the mouse and position it before any one of the objects. Next, hold down the left mouse button and drag the mouse to create a **square-like selection** area around the desired objects. Next, right-click over one of the selected objects and choose **Cut**. If done successfully, all selected objects will appear ghosted.



Paste

Object types must match before attempting to paste to a new location. For example, Windows will not paste an icon into a word processor document because the **object types** do not match.

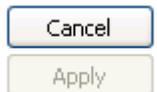
To release an object from the clipboard, navigate to the desired location, right-click, and select **Paste**.

v. A Window defined

A window is an object which represents an executed task. A window can be a file listing, an internet browser, or a word processor. Microsoft named its operating system "Windows" because of the ability to execute more than one instance of a Window at any time. This is referred to as **multitasking**.

vi. Other Ghosted Objects

Some objects (including menu dialogue text) ghost themselves if they are not allowed to be modified or executed, unless another action is performed first. For example: The **Apply Button** in a window will appear ghosted until an object inside the window has been manipulated.



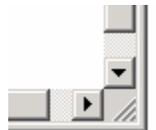
vii. Slider Bars

A **slider bar** is used to enhance Menu dialogue. Mostly, a slider bar is used to increase or decrease the value of an object. An example of a slider bar is used on the volume control.



viii. Scroll Bars

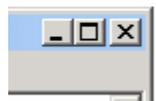
Scroll bars move window content horizontally and vertically. A **horizontal scroll bar** is located on right hand side of a window; a **vertical scroll bar** is located at the very bottom of a window.



To move a scroll bar, left-click, hold, and drag the mouse in the desired direction.

ix. Minimize, Maximize, And Close Windows

The **minimize, maximize, and close objects** are located at the top right of a window and provide three different functions. The flat dash button on the far left will minimize a window, the button which looks like two cubes will maximize a window, and the button with an x will close a window.



CHAPTER 2: The Desktop

Among other functions, the Windows **Desktop** is home to many icons. The philosophy of the Desktop is to present an elite list of icons which are quickly referenced and launched, requiring minimal search effort.

However, this ideology is lost when references of newly installed programs are placed on the Desktop. The Desktop can quickly become cluttered as the list of installed programs grows. Similarly, the time to search for a desired program intensifies.

In contrast, the [Start Menu](#) recites a comprehensive list of all installed programs. Since Desktop space is precious, only a select number of icons should be referenced here; all other icons can be referred to in the Start Menu.

There are many ways to free precious Desktop space. In this chapter, different methods of Desktop management are explored.

i. Screen Resolution

Screen **resolution** is defined as the amount of information able to fit on a display. Common display resolutions include: 640x480, 800x600, 1024x768, and coincide with monitor size. Monitors which support 640x480 are referred to as **VGA-only**; monitors which are able to display resolutions greater than 640x480 are known as "**Super VGA**" or **SVGA** and can display both VGA and SVGA modes.

Increasing screen resolution is effectively the same as "zooming out" the lens of a camera; a greater view of the surrounding area is seen, however, the subject appears smaller and perhaps a bit out of focus. This effect is the same on a monitor when screen resolution is increased: the icons and fonts are smaller, but there is more Desktop space to work with.

Screen resolution should be defined on monitors which are a certain size. For example, a 14" SVGA monitor should use 640x480 resolution for best viewing, although it may be capable of displaying higher resolutions (up to 1024x768). Below is a suggested list of screen resolutions for corresponding monitor size.

14" VGA	640x480 only
14" SVGA	640x480
15" SVGA	800x600
17" SVGA	800x600
19" SVGA	1024x768
21" SVGA	1024x768

The true display size of a monitor size can be found by measuring the viewable area of the screen diagonally from corner to corner. This measurement does not include the border around the viewable area.

While the above list is only a suggestion, some may find preferential viewing at much higher resolutions.

To change your display resolution, right-click on an empty area of the Desktop and select **Properties**. Navigate to the **Settings Tab** and use the slider bar under the **Screen Area** (Screen Resolution) heading to increase your resolution.

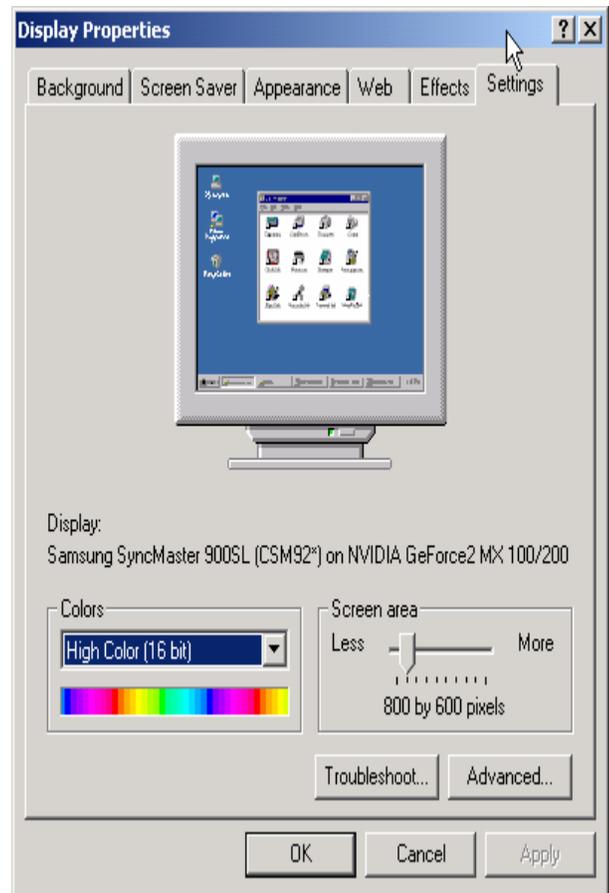
ii. Desktop Organization: Deleting, Moving, and Shrinking Icons

a. Removing Unwanted Icons

When a program is installed, a reference to that program is often placed on the Desktop. The reference – commonly referred to as a **shortcut icon** – is an icon which refers to the real location of a program. When a shortcut is double-clicked, a program is executed. Shortcuts are recognized by a unique, small white box and black arrow located near the bottom left of the icon.

One of the easiest ways to clean a cluttered Desktop is to remove all infrequently used shortcuts. Locate any shortcut icon on the Desktop, highlight it with a single left mouse click, and press the delete key. This will remove it from the Desktop and place it in the **Recycle Bin**. Right-click over the Recycle Bin and select **Empty Recycle Bin** to permanently remove the shortcut from your system.

If you're having a hard time deciding which shortcut icons to remove, try clearing away any shortcuts which duplicate a similar task as another program. For example: If there are two word processor shortcuts placed on the Desktop, delete the one that is used less.



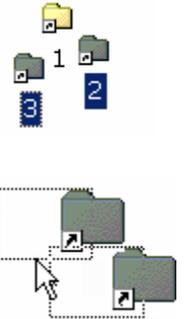
b. Organizing with Folders

One viable alternative to deleting shortcuts is to group related icons together and place them into categorized folders on the Desktop.

To create a shortcut, place the mouse over an empty area of the Desktop, right-click, and select **New** and then **Folder**. Type in the new folder name and press Enter.

To **select multiple icons** one-by-one and move them into a folder, hold down the **CTRL** key on the keyboard and left-click each icon to be moved. While still holding the CTRL key, repeat the process until all icons have been selected.

Next, **right-click, hold and drag the last highlighted icon** to the newly created folder. Finally, release the Button and select **Move Here**. It should be noted that icons such as the Recycle Bin and Network Neighborhood are not meant to be moved and must remain on the Desktop.



c. Shrinking the Icons

Another way to increase space on the Desktop is to change the size of the icon. The Windows **default icon size is equal to 32**. Although Windows will let you choose almost any icon size, it must be proportionate to its original size of 32 or it will appear distorted. An icon size 16 is proportionate to 32, and also happens to be the smallest size allowed by Windows.

Before changing icon size, ensure that the **Auto Arrange Icons** feature is turned on; otherwise, any change made to the size of the icons will cause them to align improperly on the Desktop. To turn this feature on, right-click over an empty area on the Desktop and select **Arrange Icons** and then **Auto Arrange**.

Right-click on the Desktop again and select **Properties** this time. The **Display Properties** window will appear; select the **Appearance Tab** at the top (Windows XP users must also click on the **Advanced** button to access the **Advanced Display** menu).

Next, click the **pull-down box** under Item, and choose **Icon**. To the right of Icon is an option for icon Size. Change **the icon Size from 32 to 16**. Below the Menu option Icon, Font Type and font Size is shown. Change the Font Type to **Tahoma**, and **font Size to 10**. If Tahoma font is unavailable, use Arial.



Go back to the pull-down box under Item and select **Icon Spacing (Horizontal)**. Change its size to **113**. Next, use the Item pull-down box and select **Icon Spacing (Vertical)**, and change the size to **62**.

Click on the **Apply** Button (OK and then Apply) to see the changes. There should be a noticeable difference in the amount of space available on your Desktop. If you think the icons are too small, change the size back to 32, or try increasing the font size of the icons.

CHAPTER 3: Other Aspects Of The Desktop

i. The Recycle Bin

The **recycle bin** is an icon which looks like a trash-can and is used as a temporary holding area for deleted data. Within the recycle bin, data can be recovered if accidentally deleted, or can be permanently removed from the system. **Once a file has been removed from the recycle bin, it is gone forever** unless a special data-recovery program is used.



By default, Windows will allocate 10% of your entire [hard drive](#) space for storing temporary deleted data. This amount of space is variable and may be defined; independent configurations are allowed for systems with multiple hard drives, or a single, global setting can be specified for all drives. Alternatively, the recycle bin can be set to delete files immediately without sending them to the recycle bin.

To modify your recycle bin settings, navigate to the Desktop, right-click over top of the **Recycle Bin**, and select **Properties**. Follow the dialogue and configure the recycle bin to your liking.

ii. Screen Savers

The initial purpose of a screen saver was to save a monitor from burning an image into its screen when left idle for too long. This was the case for computers which ran for 24 hours a day with their monitor continually powered on, leaving a footprint of a main Menu burnt into the screen. Similarly, image burning is evident on older bank machines and arcade games where a faint representation is displayed but is not really there.

Is your computer a candidate for a screen saver? The answer depends on whether or not your monitor supports an **energy saving mode**. The power saving ability allows the monitor to switch to a standby mode, which reduces power consumption and blanks the screen – saving the display from image burning.



To modify your screen saver and energy saving function, navigate to the Desktop, right-click on an empty area, and select **Properties**. On the **Display Properties** window, select the **Screen Saver Tab**.

A monitor can be tested for energy saving capabilities by clicking on the **Power Button** under the heading **Energy Saving Features Of Monitor (Monitor Power)**. Next to the **Turn Off Monitor** dialogue, specify a setting of **After 1 Minute**.

Finally, click **Apply**, **OK**, and then **OK** to close the Display Properties Window. Wait 1 minute without touching the mouse or keyboard to see if the monitor switches to standby mode. If nothing happens after 1 minute, the monitor does not support energy saving capabilities.

Monitors that do not support this ability can be forced to use a **Windows screen saver**. Below the **Screen Saver** tab on the **Display Properties** window, choose a favorite screen saver and specify the amount of system idle time until the screen saver becomes active. This option will work on all monitors regardless if it supports energy saving capabilities, and will save the display from image-burning.

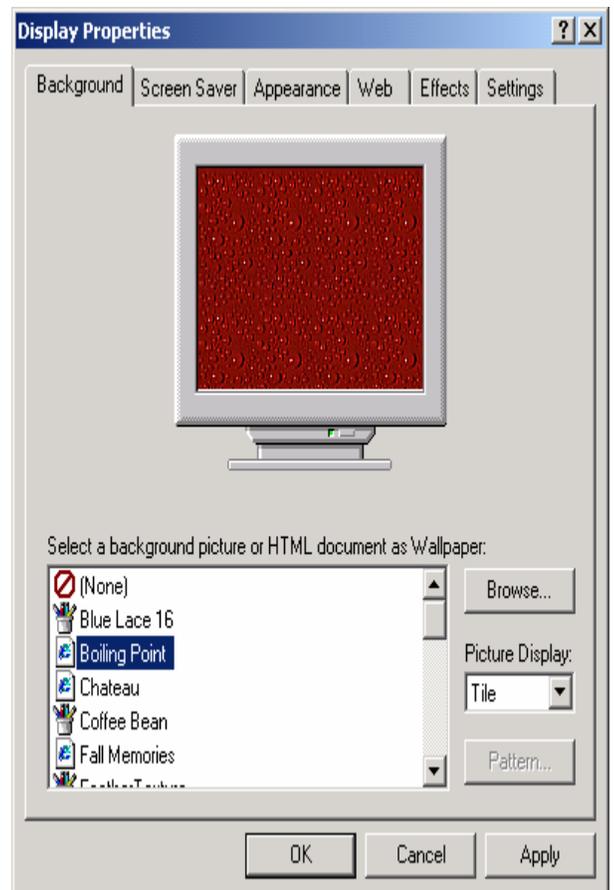
iii. Personalizing the Desktop: Backdrop Images

Placing a picture on the background of the Desktop is a great way to personalize Windows – however, it also causes the system to lag. This is especially prominent on systems which are equipped with video cards that have small amounts of **video memory**.

When a **backdrop image** is used on the background of the Desktop, the video card must process it along with every screen change that takes place. The job of a video card is to input information from the computer, process the information from its video memory, and output the changes to the display.

Since video cards come with a finite amount of video memory, it must continually process new information. Computers equipped with larger amounts of video memory (32 megabytes and higher) are able to keep information resident in their memory longer. This eliminates the amount of requests for new information when video memory is depleted, allowing for smooth video transition.

As a general rule of thumb, an acceptable backdrop image size consists of a file size no larger than 30-60k in size. Images which can produce a repeated pattern are most favorable in comparison to using a single, large image as a backdrop.



To specify a backdrop, right-click over an empty area of the Desktop, and select **Properties**. The **Background Tab** will already be selected (Windows XP users, must navigate to the Desktop Tab); choose from a pre-selected list of backdrop images that come bundled with Windows. Experiment with each image using **Center**, **Tile**, and **Stretch** from the Picture Display (Position) pull-down Menu to determine what you like best. Don't forget to click **Apply** to view your changes.



iv. 16, 24, and 32 Bit Color Depth

Windows provides the choice of [16 bit, 24 bit, and 32 bit color display modes](#). The "bit" suffix is simply a unit of measurement; only the value is important when differentiate the modes. It is said that the human eye can only distinguish approximately 6 million different colors. 16 bit color is equivalent to 65,536 colors; True Color (also known as 24 bit) can display 16,777,216 colors - which are far more than the eye can detect.

So, what is the purpose of 32 bit color? Technically, 32 bit color has an additional 8 bits of color used for an Alpha Channel. For the scope of this discussion, such technicality is not required. What is important is that 32 bit is a larger number than 24 bit, and that the human eye can distinguish less color than either can display.

To the computer, however, 16 bit color varies definitively from 24 or 32 bit. In an abstract sense, all three color modes can be compared using an analogy of traffic on a highway. For this example, information sent to a video card is represented by traveling cars. Computer resource required to handle the traffic is represented by the highway. A 16 bit highway has only 1 lane of traffic; a 24 bit highway is equivalent to 1.5 lanes, and a 32 bit highway has 2 lanes. It would follow that a greater amount of traffic requires more highway to be used.

In the physical world, a video card in 16 bit color mode must work twice as hard to display the same image in 32 bit. Since a human can only distinguish 6 million colors at a time, 32 bit color is a waste of precious computer resource. Notably, a computer can work much faster in 16 bit color than in 24 or 32 bit color mode. The difference in time to process images is highly noticeable on older computer systems when comparing bit depth of large images.

To check the color depth of your system, right-click on an empty area of the Desktop, select **Properties**, and choose the **Settings Tab**. Look under the heading **Colors (Color Quality)** and make sure that **16 bit color** is selected for optimal video performance.

v. Placing Shortcuts on The Desktop

Other than housing icons, the Desktop can provide shortcuts to regularly visited system folders. Placing a shortcut folder on the Desktop can eliminate the number of mouse clicks normally required to navigate to a desired system directory via My Computer.

Although any shortcut folder can be used as an example, creating an instance to a **download folder** on the Desktop is a great way to reduce mouse clicks, and provides quick and easy access to all downloaded files. Another advantage to placing a shortcut folder on the Desktop is the instant access it offers via the Desktop icon in any Save As dialogue window.



To create download folder, navigate to the Desktop and double click on **My Computer**. Double click on the hard drive (usually **C drive**) which will store all of your future downloads.



In the window of the hard drive you have selected, right-click on an empty area to bring up a Menu; select **New** and then **Folder**; label it "Downloads". Move the hard drive window so that a visible area of Desktop is available. Drag the new folder to the Desktop with the right mouse button. Release the mouse Button and select **Create Shortcut Here**. This will place a shortcut on the Desktop to your download folder.

It is important to reiterate that the new shortcut does not store downloaded files to your Desktop; it merely points to the location of the download folder, but is accessible from the Desktop.

CHAPTER 4: The Start Menu

The purpose of the **Start Menu** is to provide navigation to a list of installed programs, including special utility programs which come bundled with the Windows operating system.



While the Start Menu is the primary navigation tool for launching a program, it can be difficult to navigate as more programs are added to the system.

This chapter will discuss multiple ways of managing your Start Menu, so that you can find programs quickly and easily.

i. The Location of the Start Menu

On a new installation of Windows – and for most users – the Start Menu is located at the very bottom left of the display and is executed with the left mouse button. When the Start Button is pressed, a list of folders and icons are displayed. The mouse is used to navigate through the list of files and folders; a program can be executed with another left-click.

ii. Modifying the Start Menu

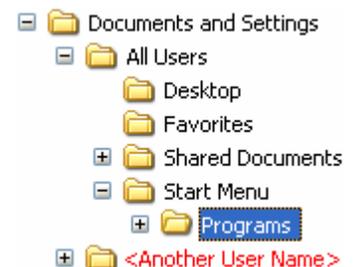
To modify the contents of the Start Menu:

Win95/98/NT users: click the **Start Menu Programs Tab** and then the **Advanced Button**.

WinME, 2000 users: left-click the **Start Menu, Settings**, and then **Taskbar and Start Menu**. Next, click the **Advanced Tab** and then the **Advanced Button**.

WinXP users: right-click the Start Menu and select **Explore All Users**.

If you have multiple people sharing one computer, **you may have to Explore other directories below the All Users folder to modify the Start Menu (as seen with the <Another User Name> Folder)**. This also holds true for Windows XP, 2000, and NT users, with respect to system configuration.



Depending on your operating system, any of these three methods will bring up a new window with Explorer and the **Programs Folder** will be listed. Double click on the **Programs** Folder (as seen highlighted in the above picture) to bring up the list of installed programs.

The next few sections will discuss how to rename, delete, and sort programs by function in the Start Menu.

iii. Renaming Icons

To rename an icon, left-click once to highlight it. Next, right-click over top of the selected icon and choose **Rename**. Type in the new name of the icon and press Enter.

iv. Deleting Icons

To remove an icon, left-click the icon to select it, and press the delete key (not the backspace key) to send it to the recycle bin. Deleting a shortcut icon from the Start Menu will not remove the program permanently – it will only remove its presence.

To uninstall a program, click **Start, Settings, Control Panel**, and then double click **Add/Remove Programs** (Start, Control Panel, and then select Add or Remove Programs). Navigate through the list of installed programs and select the program to uninstall.



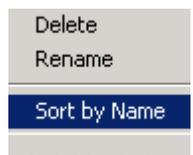
v. Grouping Icons By Function

The Start Menu can shrink dramatically in size by grouping related programs in a folder. For example, the creation of a folder called "Internet" may be used to store all Internet-related programs.

To create a new folder, left-click on **File** Menu and select **New** and then **Folder**. Type in the folder name and press Enter. Icons can be moved into the new folder using [cut and paste techniques](#).

vi. Sort contents Alphabetically

The contents of the Start Menu can be sorted alphabetically by clicking **Start** and then **Programs**. Right-click on any icon in the Programs list and select **Sort By Name** (Windows XP sorts Start Menu programs automatically).



CHAPTER 5: The Startup Folder

The **Startup Folder** is a special Windows folder which executes any program placed in its folder every time Windows starts.



In this chapter, we will discuss how the Startup Folder is related to deteriorating Windows performance.

i. How the Startup Folder Effects Windows Boot Time

Sometimes when a program is installed, its icon is placed in the Startup Folder so that it will be executed every time Windows boots. The probability of a program creating a shortcut of itself in the Startup Folder increases with the amount of programs installed on a system. Simply put: with fewer programs in the Startup Folder, the faster Windows will load.

ii. How to Tell what's in your Startup Folder

To see what is in your Startup Folder, click the **Start Menu, (All) Programs,** and then **Startup**. This will open the Startup Folder window and display a list of shortcut icons. If there aren't any icons listed, don't worry – your system does not require any tweaking. If there is a list of icons in the Startup Folder, there is a good possibility that removing them will shave seconds or perhaps minutes off of Windows boot time.

Primarily, most programs do not require special "boot time loading" in order to execute successfully – almost all programs remain dormant until executed. However, there are some programs which require a special initialization process, which is done at boot time with the use of the Startup Folder.

A simple test can be used to determine if a program will function without having to be executed at boot time. This is done by taking the contents of the Startup Folder and placing it into a temporary folder. If any program is unable to function after it is removed from the startup, the shortcut can be returned via the temporary folder.

To create a temp folder, right-click on an empty space on the Desktop, and select **New** and then **Folder**, and call it "temp startup". Next, drag all of the shortcut icons in the Startup Folder into the temporary folder on the Desktop. The Startup Folder is located in the Start Menu, and can be access via Explorer. See [chapter 4.ii](#) for details.

After moving all shortcuts, reboot the system. Click **Start, Shutdown (Turn Off Computer)**, and then **Restart**. If Windows is able to load without a problem, and each of the programs listed in the temporary folder continue to function, they can be removed permanently from the system. If this is the case, remove the temporary Startup Folder from the Desktop by left-clicking once on the folder and press the **Delete** key.

CHAPTER 6: Internet Explorer

Internet Explorer is a major component of the Windows operating system. Microsoft made it such a major focus that many of the features from Internet Explorer are built into almost every aspect of the operating system. Therefore, Internet Explorer should be updated regularly to maintain security and stability.



i. Obtaining An Updated Version Of Internet Explorer

To update Internet Explorer, go to <http://windowsupdate.microsoft.com>. Navigate through the site and click on the link for an update to Internet Explorer (**Pick updates to install**). After upgrading explorer, download the **Critical Update Packages**. They contain vital security updates and patches for Windows. This will be discussed in detail in [chapter 8](#).



ii. Setting the Home Page

One of the most frequently used options of Internet Explorer is the **home page**. The home page is the first web page displayed when Internet Explorer is launched. Often, this setting is overwritten when newly installed software (such as [ICQ](#)) overwrite the home page setting.

Home page



To specify your own home page, load Internet Explorer, click on the **Tools** Menu, and choose **Internet Options**. Under the **General Tab**, there is a dialogue box to set the home page. Type in your favorite web site address, and click **Apply** and then **OK** to save changes. The new home page can be accessed by clicking on the **Home Button** icon, located near the top of the browser.

iii. Organizing Favorites

Internet Explorer **Favorites** are used to keep track of frequently visited and important web sites. Over time, as more Favorites are added, the Favorites Menu becomes muddled and difficult to navigate.

To manage your Favorites, click on the **Favorites** Menu and choose **Organize Favorites**. The icons can be organized in the same manner discussed in [sections 4.iii, 4.iv, and 4.v](#).

iv. Temporary Internet Files

A web page consists of many small files that make up an entire site, all of which are collected and stored on the computer. Files sit dormant until a site is revisited, after which, they are recalled and loaded rather than re-downloaded, saving download time.

Temporary internet files can eat away at valuable disk space on a computer if not maintained, and should be a part of regular PC maintenance.

v. Maintaining Temporary Internet Files

To remove Temporary Internet Files, load Internet Explorer and click the **Tools** Menu and select **Internet Options**. Under the **General Tab**, select **(Temporary Internet Files) Delete Files**. Check mark **Delete All Offline Content**, and press **OK** to remove all the files from your system.

vi. Specifying Spaced Used by Temporary Internet Files

The amount of space used by Temporary Internet Files can vary, depending on how much you want to set aside. A large amount of space allotted to Temporary Internet Files will ensure that web pages are downloaded quicker. This is due to the likely chance that a required web page file is located on the system and will not require downloading. In computer terminology, this is also known as a **buffer** or **cache**.

To specify the amount of space used by Temporary Internet Files, load up Internet Explorer, left-click the **Tools** Menu, and select **Internet Options**. Under the **General Tab**, select the **Settings** button under the Temporary Internet Files heading. Next, specify the amount by typing a number (in megabytes), or use the **slider bar**. Click **OK** to save changes.

Temporary
Internet files



vii. Supplementary Internet Explorer 5.5 Video Tutorial

A supplementary video tutorial on Internet Explorer is available from our website. It provides an overview of common features used under Microsoft's Internet Explorer 5.5. Topics include: proper screen resolution, how to update Internet Explorer, the button toolbar, setting the home page, organizing favorites with folders, and backing up favorites to a floppy disk.

The web page can be access by clicking on the link:

<http://www.infopackets.com/windowstutorials.htm>

CHAPTER 7: Outlook Express

Outlook Express supports dual functionality as both an email and a news client. Since email is the stronghold of Outlook Express, it will be the primary focus in this chapter of the e-book. Also included at the end of the chapter is an extensive discussion about [spam](#) and how to combat it.



i. Obtaining the Latest Version of Outlook Express

The latest version of Outlook Express comes coupled with Internet Explorer and is obtained by visiting Microsoft's Windows update website. See [chapter 6.i](#) for details.

ii. Outlook Express as a News Client

News groups provide internet-wide discussions featuring a variety of topics. The news group reader provided by Outlook Express is very similar to reading an email, except messages are presented online, rather than sent privately.

Messages are presented with a single **header** consisting of a topic, date, and the author. Some messages may contain a **thread**, consisting of a replies pertaining to a specific topic.



Threads are displayed next to a message subject and are distinguished by their light grey square with a plus sign in the middle. When the **Thread Button** is clicked, the topic expands and collapses.

iii. Setting up a News Group Account

To set up a news group account, launch Outlook Express. Left-click the **Tools** Menu and select **Accounts**. A new window will appear; on the top right, click the **Add Button**, and select **News**. This will start the **Internet Connection Wizard**.

Display Name

A display name is shown to anyone who reads both public and private messages shared in a news group.

Type in your display name and click **Next** to continue.

A screenshot of the "Internet Connection Wizard" dialog box. The title bar reads "Internet Connection Wizard". The main area is titled "Your Name" and contains the text: "When you send e-mail, your name will appear in the From field of the outgoing message. Type your name as you would like it to appear." Below this is a text input field with "John Smith" entered. Underneath the field is the text "For example: John Smith". At the bottom right are three buttons: "< Back", "Next >", and "Cancel".

Internet News Email Address

In order to prevent unsolicited email (spam) from being sent to your mailbox, it is recommended that you **do not share your email address** with the public.

If you decide to display your email address on the news groups, it should be modified so that the address is decipherable by a human, but useless to an **email harvester**. An email harvester collects email addresses in news groups for the purpose of sending unsolicited emails.

For example, if your email address is ted@home.com, modify it to read ted**NOSPAM**@home.com.

Most users from the news groups are fully aware of email harvesters, and are able to decipher your address by excluding the NOSPAM part of the email.

Click **Next** to continue.

Internet News Server Name

A **news server** name is the name of the machine which provides news group messages. All news server names differ from each **internet service provider (ISP)**, and may be available from your ISP's web site, or on a piece of paper you received when you first set up your internet account.

A common news server name is "news". This is an acronym for the real news server name provided by your ISP. When used, the name is decoded when accessing the news groups and is converted automatically into the proper news server name.

If you are unable to locate your news server name, call your ISP and ask for help.

Click **Next** to continue.

Congratulations

Click **Finish** to save your settings.

Outlook Express will now **receive a list of news groups** available from your news server. After clicking **Finish**, a dialogue box will appear and ask whether or not to download a list of news groups. Click **Yes** to obtain the list. This can be a very lengthy process, as there are literally thousands of news groups available.



iv. News Group Subscriptions

After the news group names have downloaded, navigate to the heading **Display News groups Which Contain**, and enter a word or phrase containing a topic of interest. Outlook Express will search for a list of related news groups; double-click on each news group of interest underneath the heading **News group to subscribe**. Repeat the process until you are satisfied with the amount of subscribed groups.

By default, the **Folders View** should be enabled under Outlook Express and is located at the far left of the screen. It contains personal folders such as the Inbox, Outbox, Sent Items, Deleted Items, and Drafts. If it is not present, choose the **View** Menu and select the check box **Folder List** and click **OK**.



The Folders View should now include a new section containing your news group server name. Left-click this area to collapse or expand the subscribed list of news groups.

Click on each news group to begin downloading message headers. Since it would take a long time to download all the messages and their contents, only the title of the message is downloaded; this is referred to as a **message header**. To read a message, click on a message header. Messages from newsgroups are presented on the screen in the same location as an email message in Outlook Express.

You can begin posting a message to the newsgroup by clicking on the **New Post Button**. Your message will be displayed to everyone on the Internet who visits that particular news group.

v. News Group Etiquette

In cyberspace, there are a few unsaid rules that should be followed when posting public messages in a news group:

1. Never TYPE WITH YOUR CAPS LOCK ON. This is considered yelling.
2. Try to remain on topic when responding to a message.
3. Don't use harsh language, and never flame someone. Flaming is referred to as online public humiliation, and is not tolerated by news group moderators.
4. If you have a question to ask about the group, try searching for a group FAQ (frequently asked questions) before posting your message.
5. The title of an original post should be clear and concise if you want anyone to respond to your message. Ambiguous messages like "How do I ..." don't get read.
6. Always ask nicely for help. Never demand it.
7. Never, ever post the same message to more than 2 or 3 groups at a time. Otherwise, it will be considered as news group spamming. If you feel the need to post the same message in different discussion groups, wait a few days between posts and change the title of the message.
8. When replying with Outlook Express, always use **Reply To Group (Reply Group)**, and not **Reply To Sender (Reply)**. Most people don't use a valid email address for fear of having it collected by an email harvester.
9. Wait a few minutes (depending on your ISP) for your message to post to the news group before it appear on Outlook Express. Also keep in mind that it will take hours or days before your message propagates to other news servers across the Internet, so don't expect an immediate response to your message.

vi. Outlook Express as an Email Client

Electronic mail is a convenient, instantaneous way to send personal letters and small files over the internet. Outlook Express is a highly configurable email client and is able to process multiple email and news group accounts at the same time, or can be personalized for separate identities with password protection.

In the next few sections, both scenarios are considered.

vii. Setting up an Email Account

Setting up an email account is very similar to setting up a news group account. Click the **Tools** Menu and select **Accounts** to open the **Internet Accounts** window. Next, click the **Add** Button and select **Mail** to begin the **Internet Connection Wizard**.

Detailed account information from your Internet Service Provider (**ISP**) is required to finish the setup. This information would have been available at the time of purchasing your Internet account.

Your Name

This is the name that will appear to any recipient of an outgoing email. Type in your first and last name and click **Next**.

Internet Email Address

Click the Button which reads, "**I Already Have An Email Address I'd Like To Use**". In the prompt below, type in the email address provided by your ISP. An email address should contain the format: yourName@yourDomain.com. If you don't know what your email address is, call your Internet Service Provider for help.

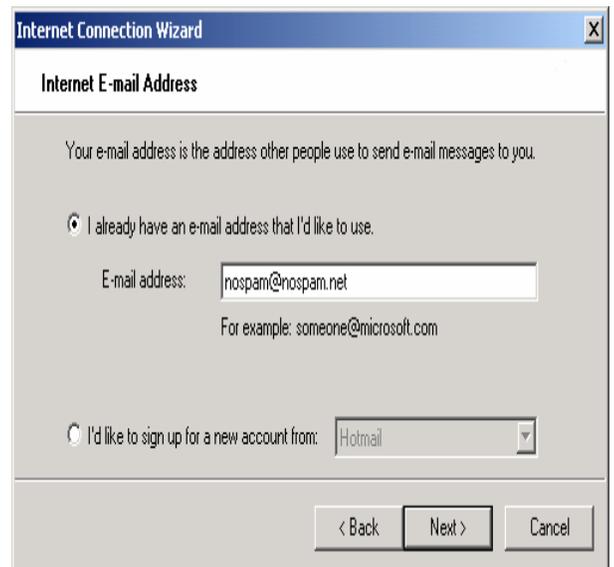
Type in your email address and click **Next**.

Email Server Names

This section requires two areas of input. The first is the **Incoming Mail Server**: this is where email resides until it is sent to a recipient. The second input box is the **Outgoing Mail Server**: email is processed here before sent to a recipient's incoming mail server.

Both Incoming and Outgoing Mail Servers are defined by your Internet Provider, and may be referred to as a **POP/POP3, IMAP, or HTTP mail server**.

Type in the name of your Incoming and Outgoing Mail Server and click **Next**.



The screenshot shows a dialog box titled "Internet Connection Wizard" with a close button (X) in the top right corner. The main title of the dialog is "Internet E-mail Address". Below the title, there is a descriptive sentence: "Your e-mail address is the address other people use to send e-mail messages to you." There are two radio button options. The first option, "I already have an e-mail address that I'd like to use.", is selected. Below this option is a text input field labeled "E-mail address:" containing the text "nospam@nospam.net". Below the input field is a smaller text label: "For example: someone@microsoft.com". The second radio button option is "I'd like to sign up for a new account from:", followed by a dropdown menu currently showing "Hotmail". At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

Internet Mail Login

A login name and password is required to access both incoming and outgoing mail servers, and is used to prevent others from accessing your email.

With the information provided by your ISP, type in your **Account Name** and **Password**, and click **Next**.

Note: If you do not specify a password here, you will be prompted later to specify one when checking for new email. This is a good way to password protect your email from others – but only works when new mail is checked.

Congratulations

Click **Finish** to save your settings.

To ensure proper setup, the account needs to be tested. This is done by sending a message to yourself.

To begin, click **New Mail Button (Create Mail)** at the top left of Outlook Express. Type your email address in the **To:** area. Press the **TAB** key on the keyboard **3** times to move the cursor to the body of the message and type in "Hello". Click on the **Send Button** to finish.

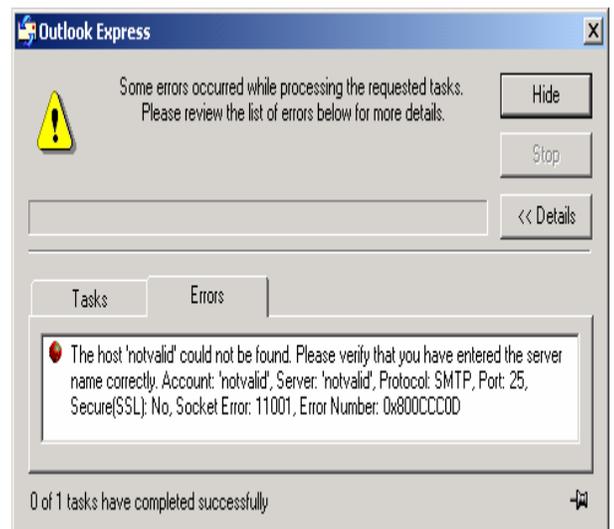


If the account was set up properly, the message will be delivered to your Outgoing Mail Server. To check for the sent message, wait a minute and click on the **Send and Receive Button (Send/Recv)**.



The Folders View is located at the top left of Outlook Express. Make sure that the **Inbox** is selected to check for any incoming messages. If your message is received in the **Inbox**, the email account was successfully set up. If does not appear, you may have to wait a few more minutes for the message to come full circle.

The **Send And Receive** dialogue box will inform you of any **configuration errors** if it was unable to complete its process. In this case, close the **Send And Receive** window and re-check your configuration settings. To ensure validity, click the **Tools** Menu, select **Account** and click the **Mail Tab**. Double click your mail server to review the settings.



viii. Setting up Multiple Identities on Outlook Express

As mentioned earlier in this chapter, Outlook Express can be configured to process multiple email and news group accounts at the same time, or can be configured with private, password protected identities.

Scenerio 1

Outlook Express can be configured to process multiple accounts at the same time when the **Send and Receive** button is clicked. To add another email account to outlook express, simply run the Internet Connection Wizard again. All the information discussed before would remain the same, except the Display Name and Email Address would be different for the new account.

Scenerio 2

You can also configure Outlook Express to process multiple accounts separately using an **email or newsgroup Identity**.

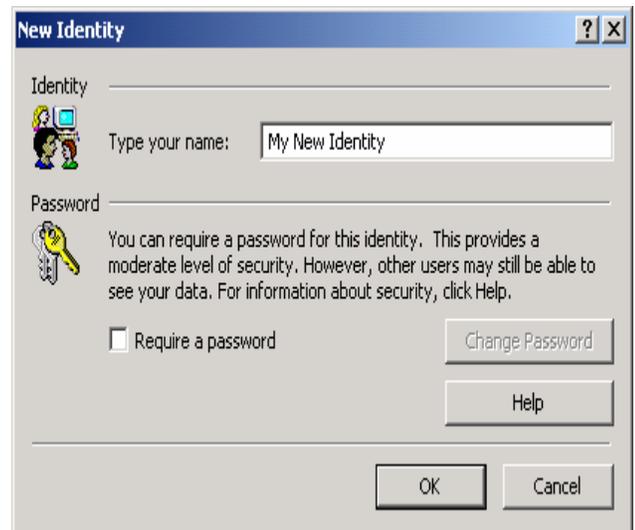
To set up an identity, click the **File** Menu, **Identities**, and then **Manage Identities**. Type in your identity name; without pressing Enter or clicking OK, decide whether or not you would like to keep this identity private.

If you do not want anyone else to switch to your identity and access all of your emails and newsgroups, **you must specify a password**. Click the **Require Password** check box and enter your email account password.

Once you choose whether or not to use a password for your identity, you will be taken straight to the Internet Connection Wizard to finish the setup.

Switching and Managing Identities

An identity can be switched or managed by clicking the **File** Menu and then select **Switch Identities**. To change to an identity, double click the account to switch to. To manage an identity, click once on the identity name and select the **Manage Identities** Button.



Removing an Identity

Identities can only be removed if you are not currently using that identity. For example: If you were using identity A and wanted to remove identity A, you would have to switch to identity B first, then remove identity A.

Removing an identity is done using the Manage Identities window (see above).

ix. Origins of Spam

Sometimes, unsolicited email (spam) is sent to your **Inbox**. While difficult to thwart, spam can be reduced using **Message Rules**. If configured properly, Message Rules can sort or delete unwanted email before it is read.

Before attempting to block spam, it is essential to understand how spam is sent and received to recipients. Three methods of spamming are explored.

Method 1: From the ISP

Sometimes, email addresses are collected from an employee of an Internet Service Provider. With access to thousands of records, an email list is quickly generated using the ISP central database. The list is then passed on to the spammer.

Method 2: Email Harvesters

Email addresses are also generated with the help of an email harvesting program. An email harvester is fully automated and can collect addresses from each random page it visits. Similarly, harvesters are used in news groups to collect addresses from publicly posted messages.

Method 3: Mail Server Infiltration

Some spammers use special hacking programs to gain unrestricted access to local mail servers. Once infiltrated, spam is sent to multiple recipients without the need to specify a recipient address.

x. How to Report Spam

Mail Headers provide a virtual trail leading back to a spammer, and are hidden deep within each unsolicited email received. Like a professional thief, some spammers are able to hide their trail; others are less experienced and leave clues of their origin.

Network administrators are responsible for dealing with spam complaints. To file a complaint, mail headers must be sent to the Network Administrator where the spam message originated.

To view mail headers, right-click over top of a message subject and select **Properties**, and then click the **Details Tab**. The second line of the message header will read "**Received: from <some address>**". Highlight this text by holding the left mouse button, and drag the mouse over top of the address. Next, right-click over the highlighted text and select **Copy**. This will paste the text to the **clipboard**.

Close the mail header window and click on **New Message**. In the **To:** field, right-click the mouse and select **Paste**. Modify the address to read "**abuse@<some address>**".

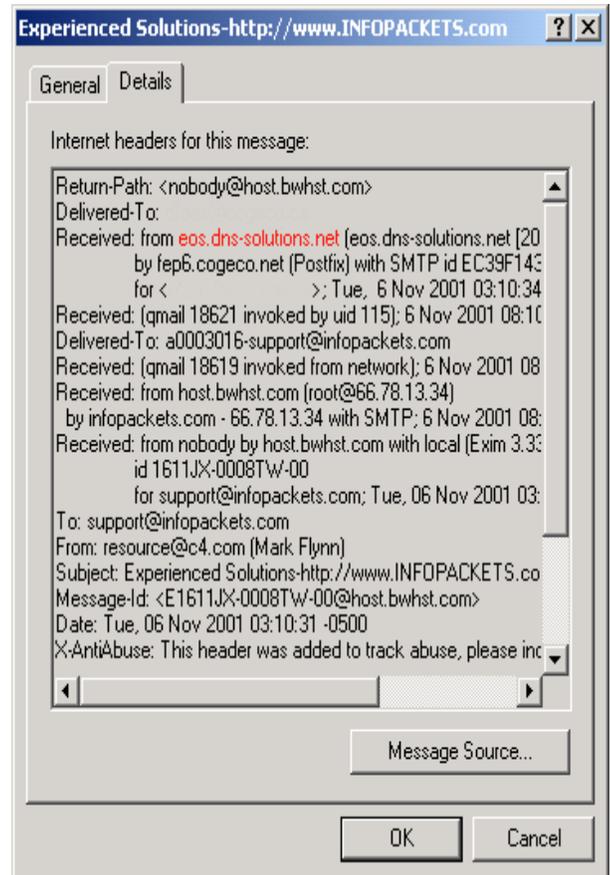
For example, a header might read "Received: from mh6-tx.mail.home.com ([65.10.73.148])". The text "mh6-tx.mail.home.com" is then paste to the To: field and modified to read "abuse@mh6-tx.mail.home.com".

Next, paste the mail headers into the body of the outgoing message. Minimize the message containing the address abuse@<some address>. Right-click over top of the spam subject title and select **Properties**. Click the **Details Tab** and then right-click over top of the headers and choose **Select All**. Right-click again and select **Copy** to place the headers in your clipboard.

Go back to the complaint email containing the address abuse@<some address>. Navigate to the message body, right-click, and select **Paste**. Finally, click on the **Send** Button to transmit your complaint. A response should be received within a day or two, letting you know if the complaint is being dealt with.

xi. Message Rules

As previously discussed, some spammers can infiltrate a mail server to send unsolicited email. When this method is used, the sender address is left blank but the spam is still delivered to a mailbox. In this case, a message filter can be set to delete all messages which are not a valid email address.



Sample Mail Rule: Delete all messages NOT addressed to you

Click the **Tools** Menu, and choose **Message Rules** and then **Mail**. Click the **New** Button and then put a check mark next to **Where the To Line Contains People**.

Under the #3 Rule Description, click the link **Contains People**. A new window will appear; click **Type one name at a time ... from the Address book**, and enter your email address.

Underneath the **People** heading in the same window, click once to select **Where the To Line Contains People**, and then click the **Options** Button. Underneath the #1 Rule, select **message does not contain the people below**. Click **OK** to continue.

Finally, enter the name of the mail rule under the #4 heading, and type in **no valid email address**. The final mail rule should read:

Where the To line does not contain people "yourName@yourDomain.com" delete it.

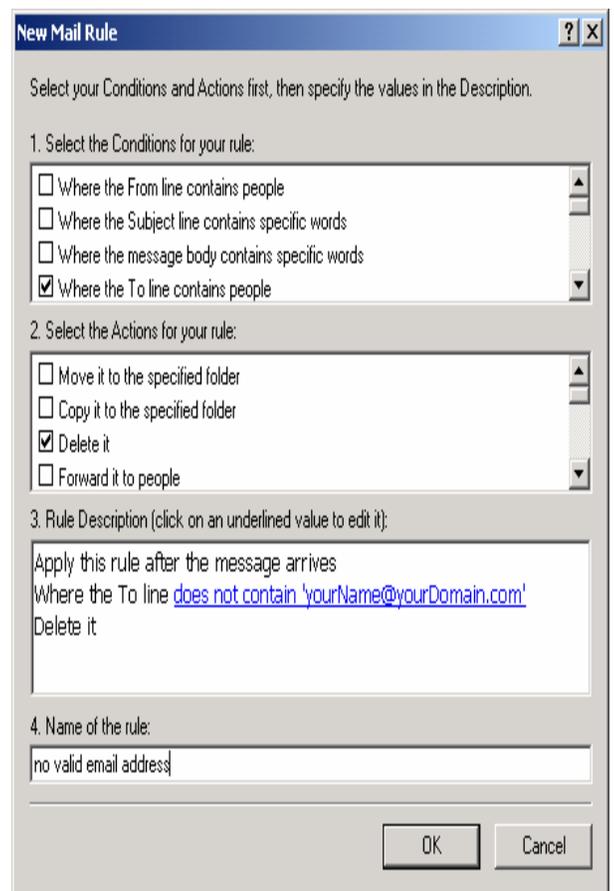
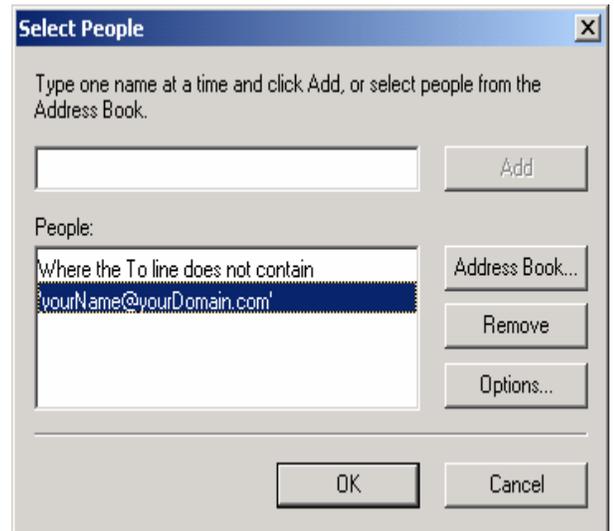
All emails directed to your mailbox not containing your address will be redirected to the **Deleted Items Folder**. The mail rule can also be modified to **Delete It From Server** so that the message will not download to your computer.

Using the example above as a guideline, experiment and create your own message rules.

xii. Supplementary Outlook Express 5.5 Video Tutorial

A supplementary video of Outlook Express version 5.5 is available from our website:

<http://www.infopackets.com/windowstutorials.htm>



CHAPTER 8: Windows Security and Stability

It is not surprising to most computer users to find out that Windows is full of **bugs**. A bug is a flaw in software which produces unexpected results. Since Windows is an operating system, it is also classified as software. Some bugs in Windows can cause **unexpected results**, such as: a complete system freeze (also known as a system "**lock up**"), the **Blue Screen of Death (BSOD)**, or a spontaneous system **reboot** for no apparent reason.

The main purpose of Windows is to overlook all operations on a computer and to ensure all programs function properly. A special set of rules reside in the computer's memory which permit Windows to perform operating-system oriented functions. The functions define interactive rules between the hardware inside the computer and the software which operates under the control of Windows. The computer memory containing the special rules is sacred and must never be compromised by any other program.

Some times, a bug from a program goes undetected and seeps into the sacred memory area. As previously mentioned, the job of Windows is to oversee all superfluous operations, so this action should not be allowed. When the memory is compromised, it causes an unexpected result. Consider this conundrum: If a bug from a program goes undetected by Windows, it is for the reason that Windows itself has a bug and was unable to recognize the breach in security.

The next section will discuss how to increase system stability and security so that bugs do not cause Windows to falter.

i. Microsoft's Windows Update

Hackers are also responsible for crashing Windows. When a computer is connected to a network, such as the Internet, hackers are able to infiltrate a system because of security holes found within the Windows operating system.

Once a hacker gains unrestricted access, anything can happen. Microsoft provides free Windows updates via their website to correct known security issues. The updates contain bug patches, increase security and stability, and are referred to as **Critical Update Packages**.

They are available by clicking on the link <http://windowsupdate.microsoft.com>.

ii. A Software Firewall

Critical Update Packages help to guard against hackers, but what if not all security issues have been exploited? One way of getting around this problem is by implementing a **Firewall**.

A good firewall program can be configured to allow communication only on certain channels of a computer, effectively blocking 99% of all hack attempts.

One of the best known firewall utilities is **Zone Alarm**, and it's completely free for non-commercial use.

<http://www.zonelabs.com>

For detailed information about How to Stop Hackers and Viruses from gaining access to your system, be sure to grab our supplemental * FREE * report:

<http://www.infopackets.com/hacking+hackers+hack.htm>

CHAPTER 9: Windows Performance Tips

i. The Windows Registry

Every program installed to Windows creates an entry into a **database** called the [system registry](#). The registry contains information about each program, including: its location, what files are needed in order for the program to be executed under Windows (also known as **Dynamic Link Libraries**, or DLL's), a list of all files which make up the program, and the like.

Over time, the registry grows as new programs are installed to the system. As such, Windows boot time increases, and performance degrades.

Some registry entries tell Windows to execute a program every time Windows starts. Other entries are injected into Windows and install add-ons to the operating system – even if you are unaware that the option is being installed.

Microsoft is famous for the latter example and is responsible for introducing programs such as "**FindFast.exe**", which is part of the MS Office suite. The idea behind FindFast is to locate all MS Office files stored on a computer so that it can be found quickly if misplaced. Since the computer is constantly on the lookout for MS Office files, valuable resources are wasted. The program does more harm than good because most users store all their office files in the same location on a computer.

Tip: To uninstall FindFast.exe from your system, click the Start Menu, choose Programs and then Startup. Right-click the FindFast icon and press the **delete** key.

To reduce the possibility of finding programs such as FindFast on your system, uninstall any programs which are redundant and infrequently used.

This philosophy eliminates the likelihood that a previously installed program was causing a performance loss.

To view all of the programs installed on your system, click the **Start Menu**, choose **Settings** and then **Control Panel (Start, Control Panel)**. Next, click on the **Add/Remove Programs** icon (**Add or Remove Programs**). Scroll through the list of programs and remove those which are no longer needed.



Add/Remove Programs

ii. Hard Drive Maintenance

A hard drive is a computer device responsible for storing all programs and personal data. The inner workings of a hard drive include circular platters used to store information, with **read/write heads** located above and below each platter. Data is written to the hard drive somewhat like a compact disc (CD), with tracks defining information boundaries.

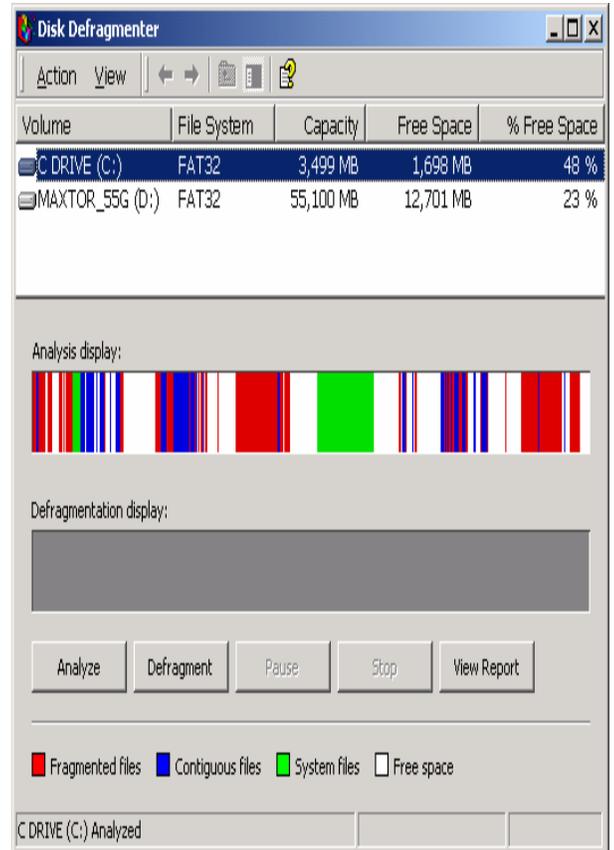
Due to the physical properties of a hard drive, gaps of unused space are left in-between records every time information is added and removed. For example, a piece of data containing a unit of 10k may fit in an area on the hard drive that is 12k wide, leaving 2k of unused space.

Sometimes, data is too large to fit in one area, and may need to span multiple locations on the hard drive. Load time increases as the hard drive must move its read/write heads to different locations to obtain one record of information. This scenario represents how every file is stored on a hard drive and is responsible for degrading system performance.

To increase hard drive efficiency, a technique known as **defragging** acquires related data and places it contiguously on the hard drive. This minimizes the time required to locate and read/write a file.

The first phase in the defragging process takes a snapshot of all files on the hard drive. Once a snapshot is taken, clusters of related data are mapped to areas of the drive which provide a better "fit". The procedure repeats until there is no more data to map.

To access the Defrag utility, click the **Start Menu**, choose **(All) Programs, Accessories**, and then **System Tools**. Click on **Disk Defragmenter** to start the defrag program. Choose the hard drive to defrag (usually C drive), and follow the Menu dialogue.



CHAPTER 10: Other Hardware Performance Tips

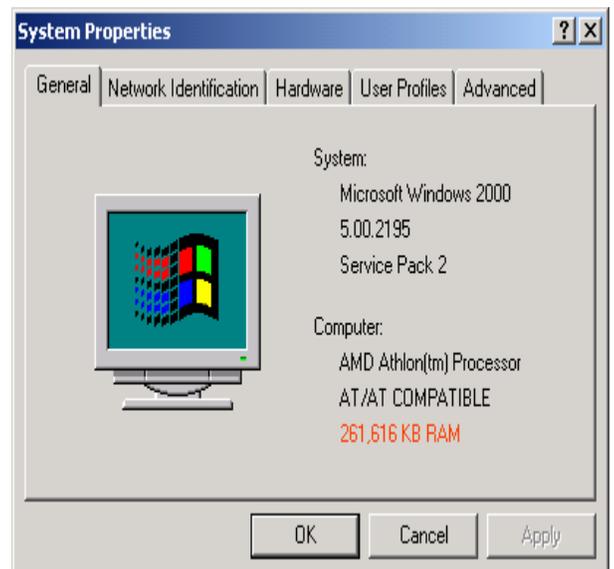
i. How RAM increases Windows Performance

Adding RAM to a computer can dramatically increase Windows performance. **RAM** is a temporary holding area for frequently used data. RAM access time is very fast compared to any other storage medium inside a computer. The amount of information it can hold at one time is generally much smaller than what can fit on a hard drive.

Windows is able to process applications faster by keeping frequently used application data in RAM for a longer period of time. Without sufficient RAM, Windows is forced to store overflow information to the hard drive. RAM access time is represented in nanoseconds, compared to milliseconds of a hard drive.

Depending on what operating system is being used, the amount of RAM required for a particular machine can vary. For a system running Windows 95 or 98, 64 megabytes of RAM is sufficient, although 128 megabytes will definitely process application data much quicker. For Windows ME, and 2000, 256 megabytes and higher is recommended.

To find how much RAM exists in your computer, navigate to the Desktop, right-click **My Computer**, and select **Properties**. The information displayed under the **General Tab** will indicate **how much memory** is available (Windows XP users: click Start, Control Panel, select Performance and Maintenance, and then choose See basic information about your computer).



Further consideration is required before purchasing additional RAM for a PC. For older computer systems, the price of RAM is almost as expensive as buying a new computer. As technology advances, newer RAM replaces its aging predecessors. With a lower supply of older RAM, a higher price will be paid.

The age of a computer can determine whether or not it is cost effective to purchase additional RAM. As such, processor speed is directly related to computer age.

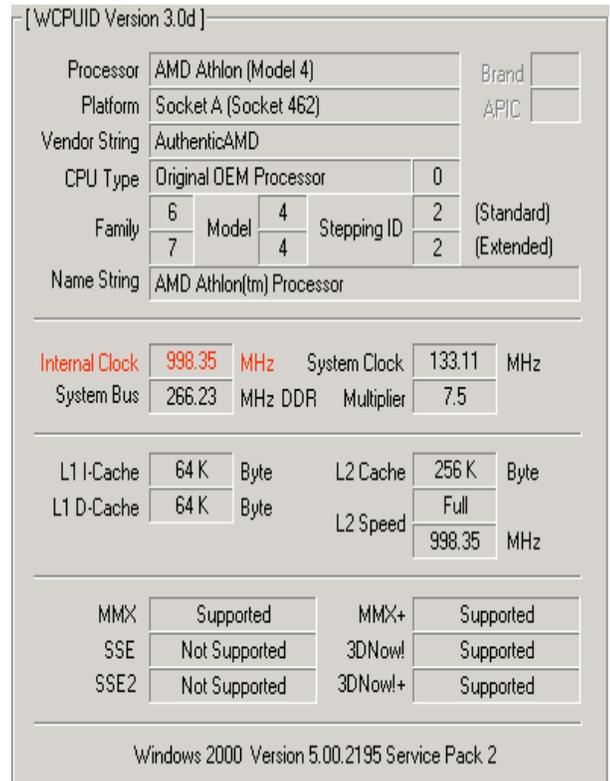
WCPUid is a program capable of providing you with information about your processor, including its speed and brand. This program is available at the author's web site:

<http://hp.vector.co.jp/authors/VA002374/src/download.html>.

Alternatively, version 3.0d may be downloaded from infopackets.com if the previous link does not work:

<http://www.infopackets.com/dloads/wcpu30d.exe>.

Download and install WCPUid, and look at the **Internal Clock** value to determine your processor's speed. Look at the **Name String** to determine the brand of your processor. Use the chart below to determine if an upgrade is feasible with respect to processing speed.



Processor Type	Processing Speed	Feasible? / RAM type
486	16 ~ 100 MHz	no
586 / Intel Pentium I	133 ~ 233 MHz	no
686/ Intel Pentium II	266 ~ 466 MHz	yes, some PC66 & PC100
Intel Celeron / Celeron II	300+ MHz	yes, some PC66 & PC100
Intel Pentium III	500 ~ 1000 MHz	yes, PC100 or PC133
AMD Athlon, Athlon XP	600+ MHz	PC100, PC133, DDR **
Intel Pentium IV	1000+ MHz +	yes, some PC133, but RDR is an upcoming standard **

** RDR RAM is more expensive compared to PC100 or PC133 RAM because it is an upcoming standard. RDR RAM was recently introduced with Pentium 4's; it is roughly 4 times as expensive compared to PC133 RAM. Newer generation of AMD's Athlon, including the Athlon XP processor use DDR RAM which is roughly 2 times more expensive than PC133 RAM and runs at a bus rate of 266 MHz.

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