The 3 C's seminar (Windows XP)

(or Cleaning the Cr@p from your Computer)

Why should your computer get routine maintenance?

Do you remember how fast your computer was when you first got it? This is because you hadn't yet installed all those programs and utilities that you no longer use. Most of these programs leave behind temporary files and registry entries, even when uninstalled! Just like your car, your computer needs regular maintenance.

Plus your operating system records every visit to every website; every time you open a document, and a lot more. All this information takes up valuable space.

Your internet browser can save personal information about you, such as your name, address, date of birth, passwords and credit cards numbers and all this saved information can slow down your browser

In today's seminar, we will cover the basic techniques that will clean out the unnecessary files that accumulate in a Windows-based computer. Not only will your computer disk recover valuable space, but its speed and performance will be improved. I will also show how to automate some of these tasks. Finally, we'll take a brief look at keeping your computer free of malware.

The tasks below that have an asterisk (★) by their side are items that are recommended to be performed at least monthly, or weekly if you are an intensive user of your computer. The other tasks need only be performed every three to six months.

They are in the order in which I will review through them. The following pages contain more detailed instructions on how to perform each of these items to help complete these tasks on your own computer when you get home. I recommend that you follow these notes as I demonstrate each point.

1. Create a **Restore** point.
2. Adjust the **Restore** and **Recycle Bin** settings.
3. **Tweaks** to improve Windows XP **Performance.**
4. Remove **Unused/Un-needed** programs.
5. Perform a **Disk Check** (Windows utility).

★ **6.** Remove **Temporary files, Cookies** and **MRU's** using CCleaner (freeware).

7. Clean the **Registry** using CCleaner.

★ **8.** **Defragment** hard drives.

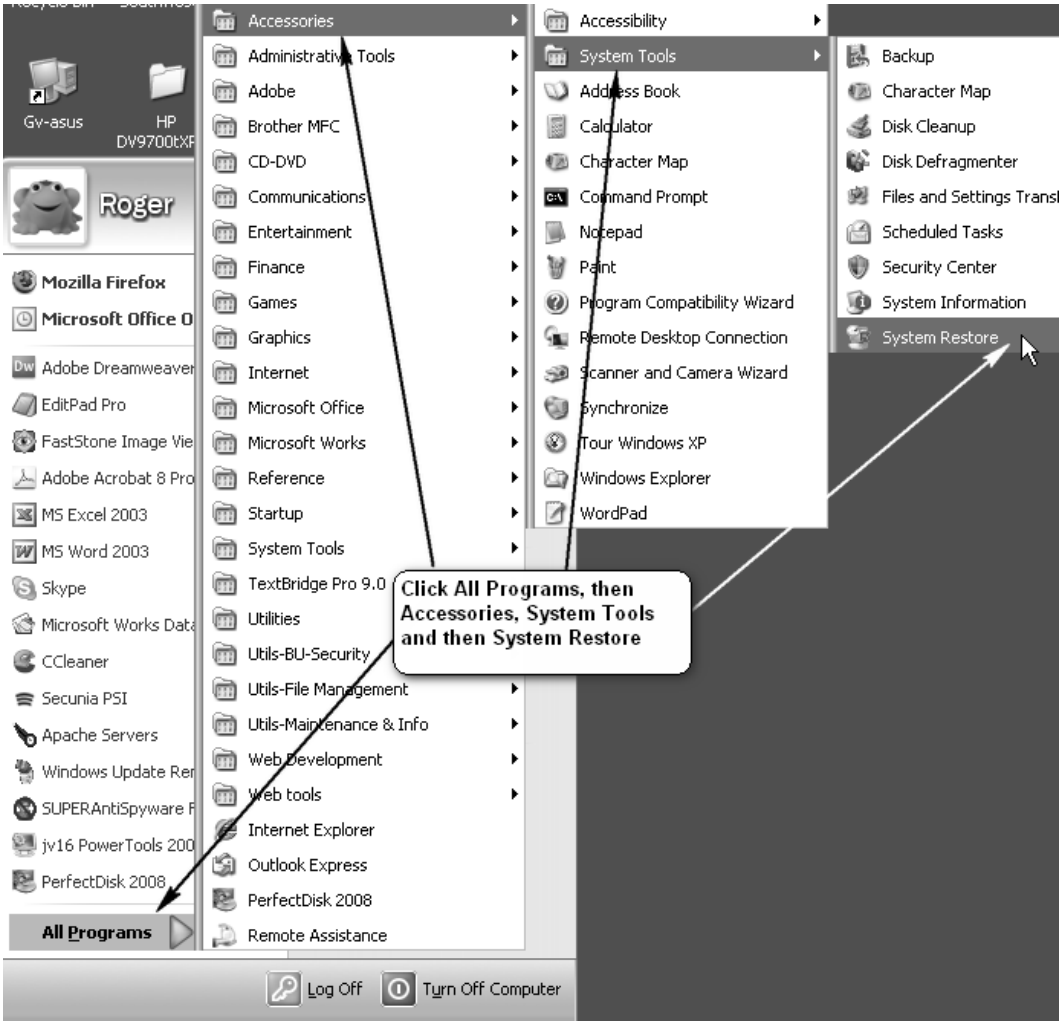
9. **Automate** the cleanup and defrag.
10. Remove unneeded **Autostart** programs

★ **11.** **Malware**. Complete a manual Windows update and AV program. Check for **Spyware** using Super Anti-Spyware and SpyBot (both freeware) and that Windows and all programs with web access are fully patched/up-to-date.

Step 1 is just a precaution before performing the other steps. If you perform steps 2-10, your computer will run significantly faster.

1. Create a Restore Point

1. Access the System Restore Wizard through **System Tools**. (To access the System Restore Wizard, *click* **Start**, and then *click* **All Programs, then Accessories, System Tools** and finally, **System Restore**.)



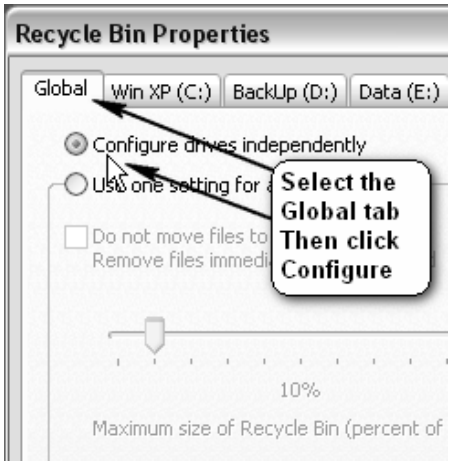
2. *Click* **System Restore**
3. *Click* **Create a restore point**, and then *click* **Next**.
4. In the Restore point description box, type a name to identify this restore point. System Restore automatically adds to this name the date and time when the Restore Point is created.
   a. To finish creating this restore point, *click* **Create**.
   b. To cancel restore point creation and return to the Welcome to System Restore screen, *click* **Back**.
   c. To cancel restore point creation and exit the System Restore Wizard, *click* **Cancel**.

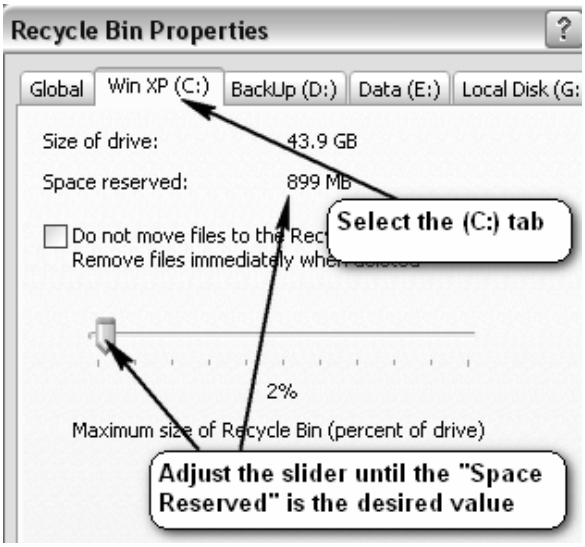
2. Adjust the size of the Recycle Bin and Restore files

By default, Windows can allocate up to 10% of your hard drive to each of the recycle bin and system restore. With modern hard drives, this can be a lot of space – and far more than most people require. I normally set my Recycle Bin to just under 1Gb and the System Restore to just over 1 Gb.

Recycle Bin: *Right click* on the **Recycle Bin** and *click* **properties**. Then in the **Global** tab, *click* **Configure drives independently**.

Now *click* the **C:** drive tab and *adjust the slider* until the **Space Reserved** is what you want - say around 1 Gb.

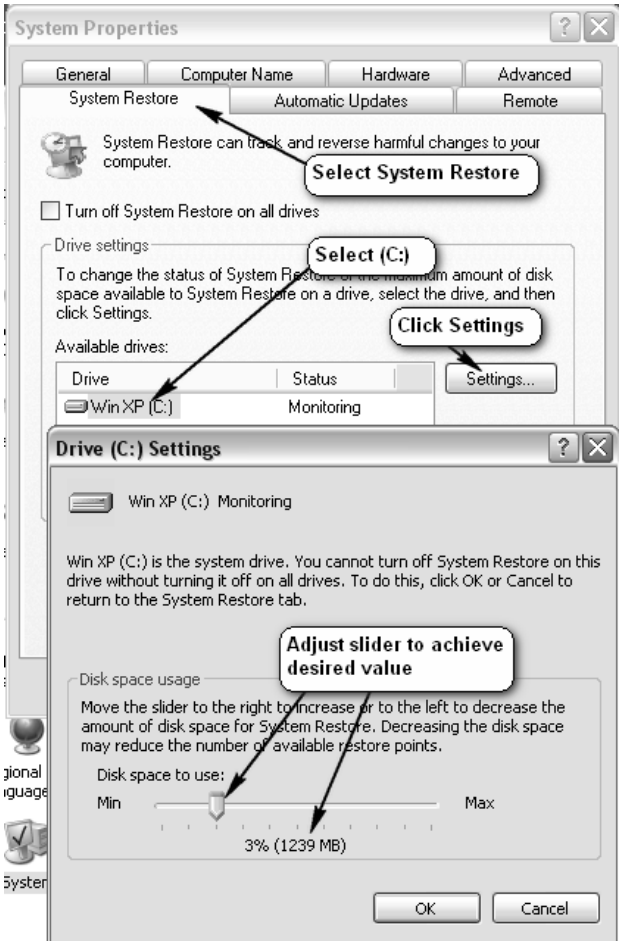




If you have more than one hard drive, *click* on the other tabs and make the appropriate setting changes.

System Restore: Open the **Control Panel** (**Start>Control Panel**) and *double click* **System**. Now *select* the **System Restore** tab and in the box, *select* **C:** drive. *Click* **Settings** button and *adjust slider* to your preferences - say 1.5 Gb.

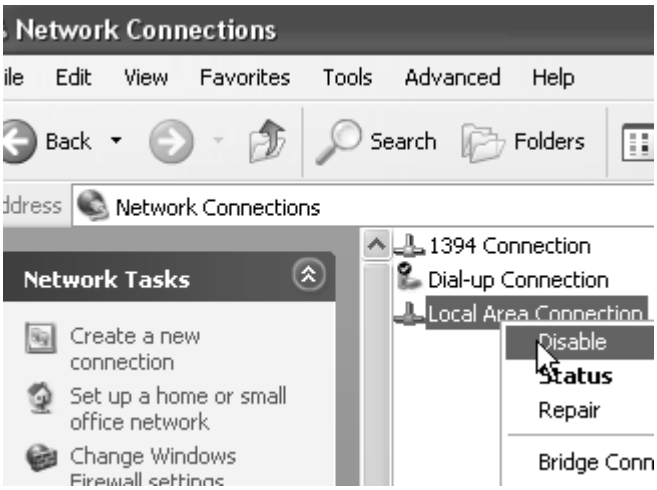
If you have more than one hard drive, repeat for those drives.



3. Windows tweaks – for improved performance (optional)

a. Stop Windows looking for networks

If you do **NOT** have a home network or a DSL or Cable broadband internet connection, then it's a good idea to stop Windows from constantly looking for a network!



Click **Start/Control Panel** and *double click* **Network Connections**.

Right click **Local Area Connection** and then *click* **disable.**

Close Network Connections.

(*note:* If you ever add a home network in the future, just repeat these steps, but *click* **enable** instead of disable)

b. Disable remote access to your computer

If you do **NOT** use Remote Desktop, or have anyone perform Remote Assistance, then for security reasons, I recommend you disable these functions.

Click **Start/Control Panel** and *double click* **System**.

Click the **Remote** tab, and uncheck the boxes under "**Remote Assistance** and **Remote Desktop**. *Click* **OK.**

c. Disable Windows visual effects

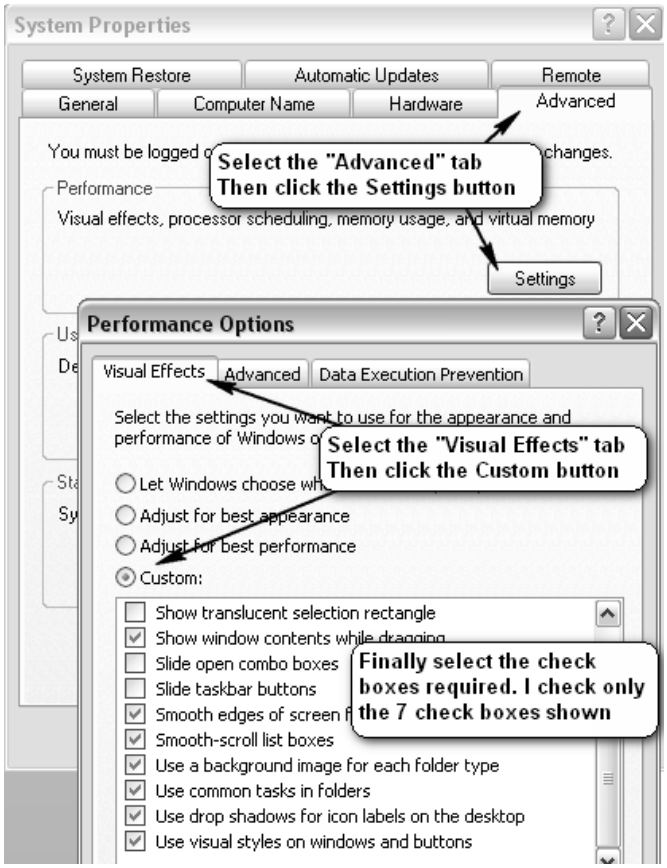
By default, Windows is set to use some fancy enhanced graphics, that do little to improve the look of your desktop, but use a lot of resources.

Click **Start/Control Panel** and *double click* **System**.

Click the **Advanced** tab and then *click* the **Settings** button in the **Performance Options** window.

You will find a lot of choices of visual effects that can be unchecked (turned off)

In the screenshot here, you can see the settings that I use. I normally *click* the **Adjust for Best Performance** radio button (this clears all the check marks), and then just check those check boxes shown-

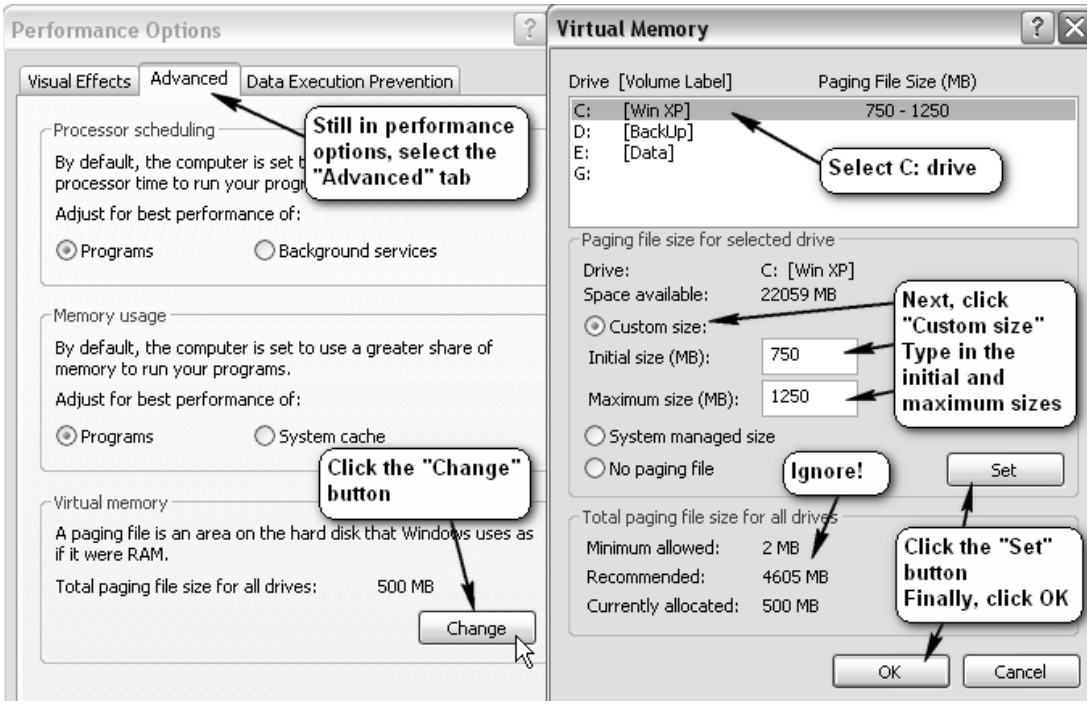


d. Set the Paging file size: When Windows needs more memory than is available from the computer's RAM, it uses a file called the "Paging file", located on the hard drive. As the hard drive is 1,000 times slower than RAM, it's important to make the paging file as fast as possible. By default, Windows adjusts the size of this file dynamically to meet it's needs. Performance is improved if the minimum size of this file is set to a larger size. I recommend setting the minimum size to 750Mb and the maximum to 1,250Mb.

Important: Only make this change immediately after the hard drive is defragmented (see section 8).

Follow the previous instructions to open the **Performance Options** window, then

1. *Select* the **Advanced** tab and in the Virtual memory section *click* **Change** button
2. In the Virtual Memory window, *select* **C:** drive, *click* **Custom** radio button. *Type* **750** for initial size and **1250** for maximum size.
3. *Click* **Set** button and *then* **OK**



After clicking OK, the system will need to be restarted.

4. Remove Unused and Un-needed programs.

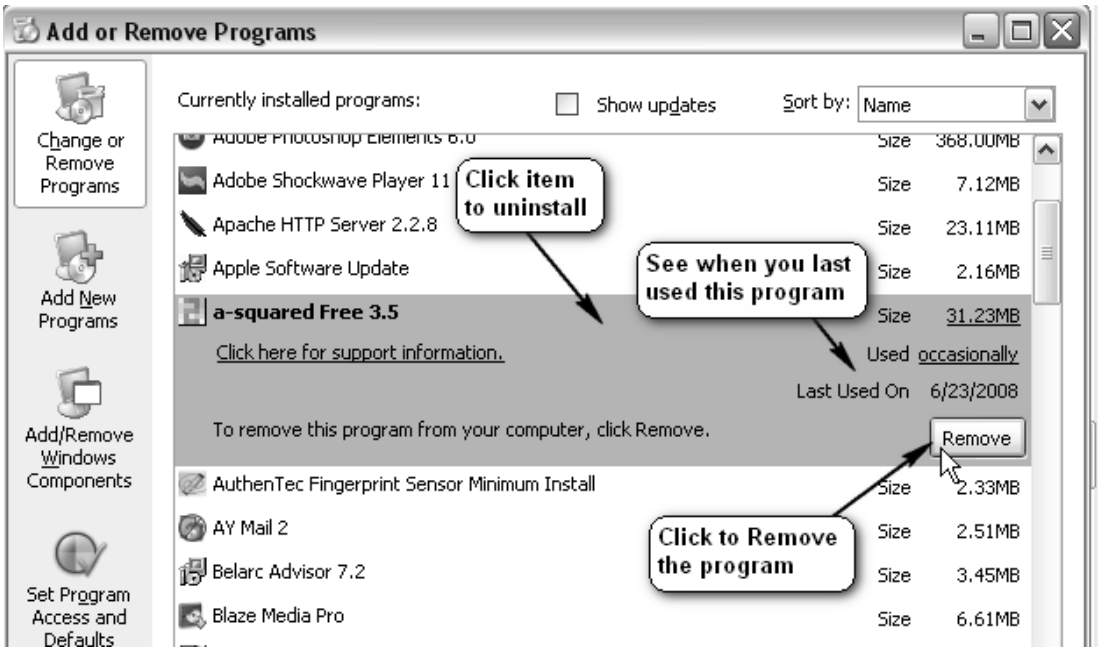
Clear Out Forgotten Programs

The next step in tuning up your computer's performance is to remove any unnecessary programs. I install new programs all the time. Sometimes I'm thrilled with the new program and I continue to use it. Other times, it doesn't do what I hoped, and the program sits on my computer consuming resources.

Follow these steps to remove unneeded programs:

1. *Click* **Start**, and then *click* **Control Panel**

2. *Click* Add or Remove Programs
3. Scroll through the list and examine each program. If a progam is selected, Windows XP shows how often you use the program and when you last used it. I've decided to remove a-Squared Free, as shown in the Figure. You shouldn't remove anything labeled as an Update or Hotfix, however, because they improve the security of your computer
4. *Click* each program you no longer need, *click* the Remove button, and then follow the prompts to uninstall it



You may have to restart your computer after removing a program. After your computer restarts, repeat the steps above to remove more programs.

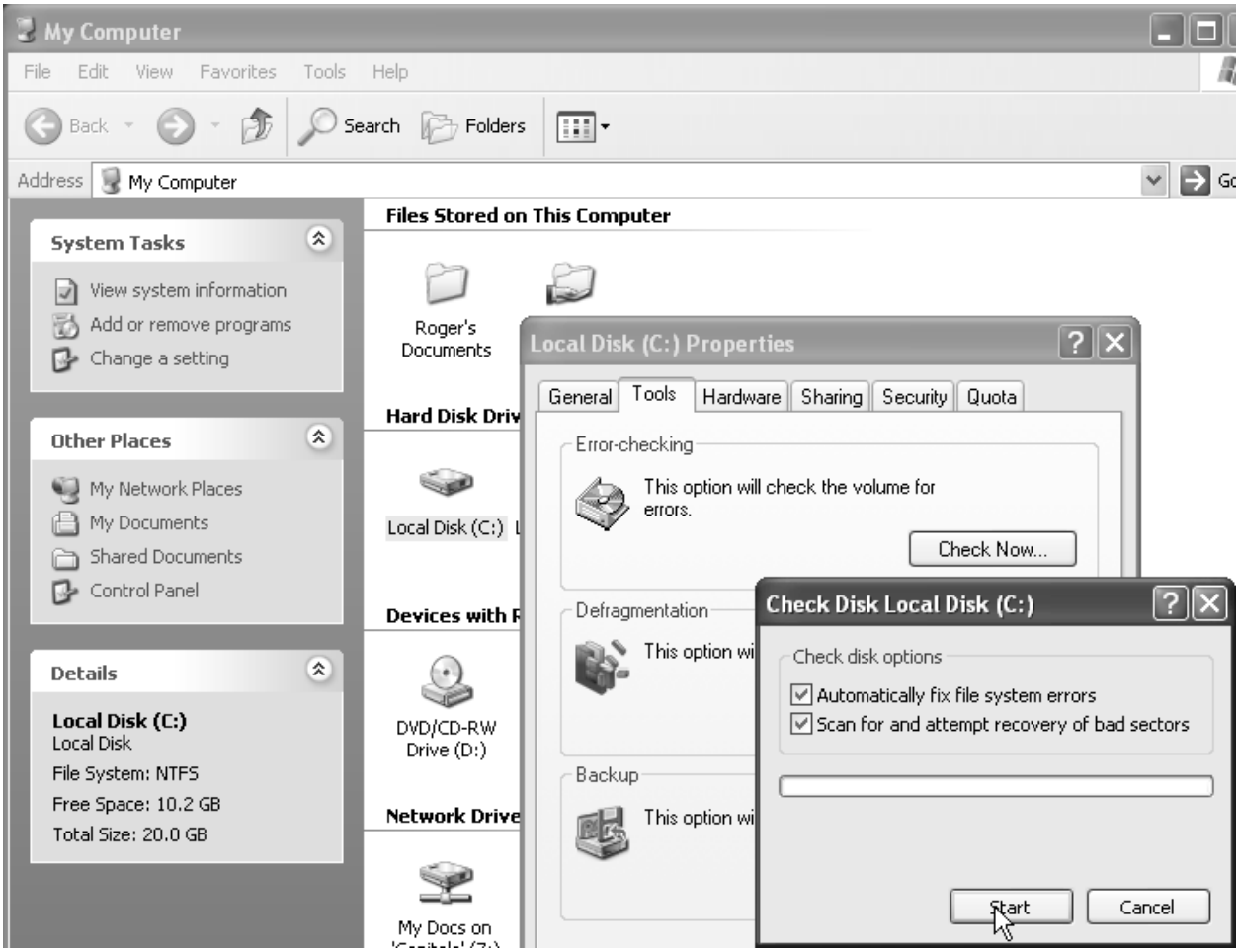
5. Perform a Disk Error Check

You can use the Error-checking tool to check for file system errors and bad sectors on your hard disk.

1. Open My Computer, and then select/highlight the local disk you want to check.
2. On the **File** menu, *click* **Properties**.
3. On the **Tools** tab, under **Error-checking**, *click* **Check Now**.
4. Under **Check disk options**, select the **Scan for and attempt recovery of bad sectors** and **Automatically fix …errors** check boxes.

To open My Computer, *click* **Start**, and then *click* **My Computer**.

All files & programs must be closed for this process to run. If the disk is currently in use, a message box will appear prompting you to indicate whether or not you want to reschedule the disk checking for the next time you restart your system. Then, the next time you restart your system, disk checking will run. Your disk will not be available to perform other tasks while this process is running.

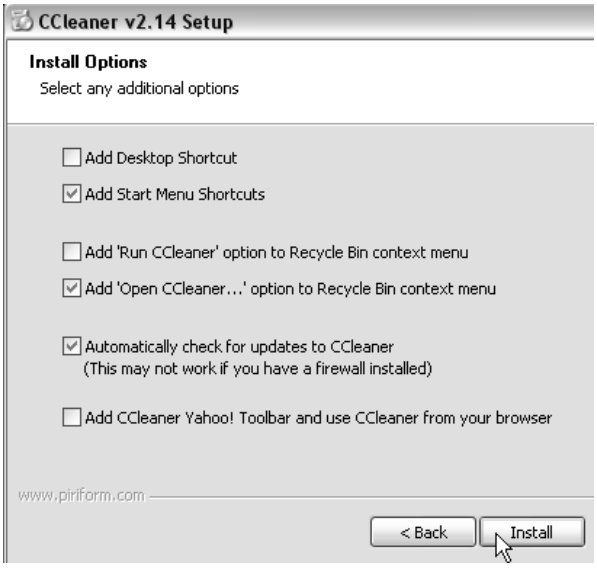


Repeat for other hard disks drives – if your computer has them.

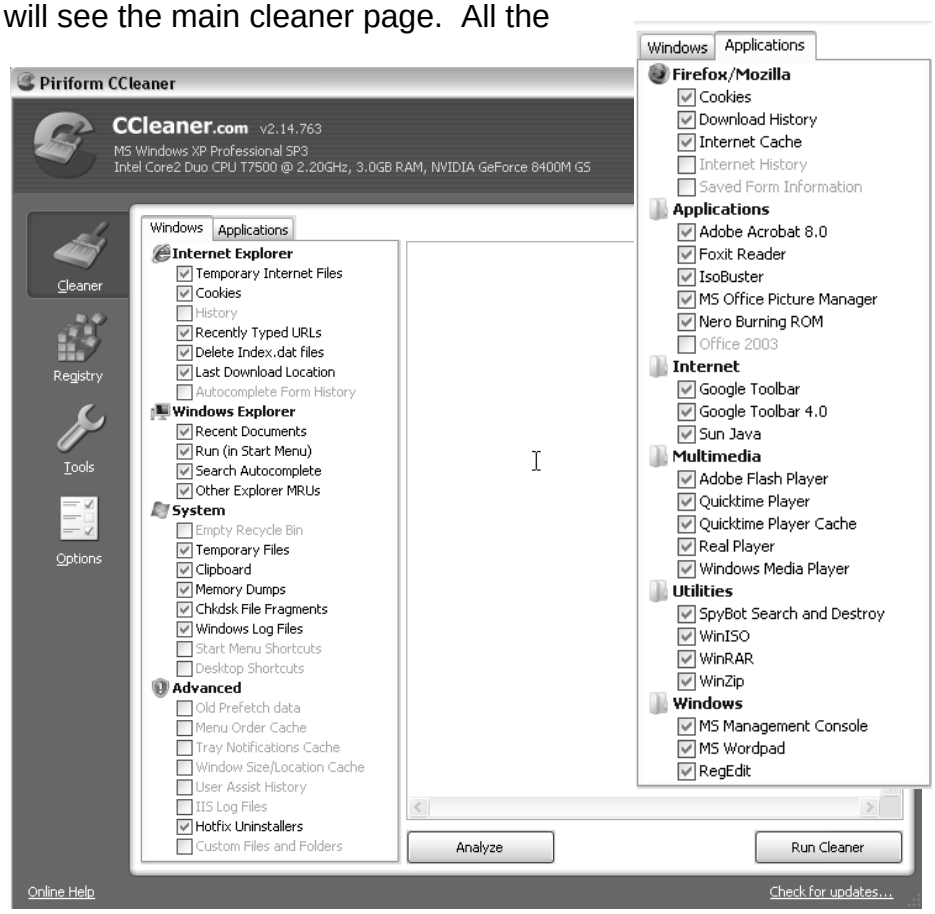
Note: Disk checking can take up to an hour – so make sure you don't need to use the computer when you run this check!

6. Remove temporary files, cookies & MRU's using CCleaner *(freeware)*

What is **CCleaner**? It's an excellent freeware tool that removes unnecessary files and cleans the registry. (see p.18 for download site). After downloading CCleaner to your desktop, *double click* the file, then *click* **Run**, then **OK** (to select English), then **Next**, then **I Agree**, then **Next**, and then select the options you want. On the right I've shown the options I choose. Finally, *click* **Finish**.

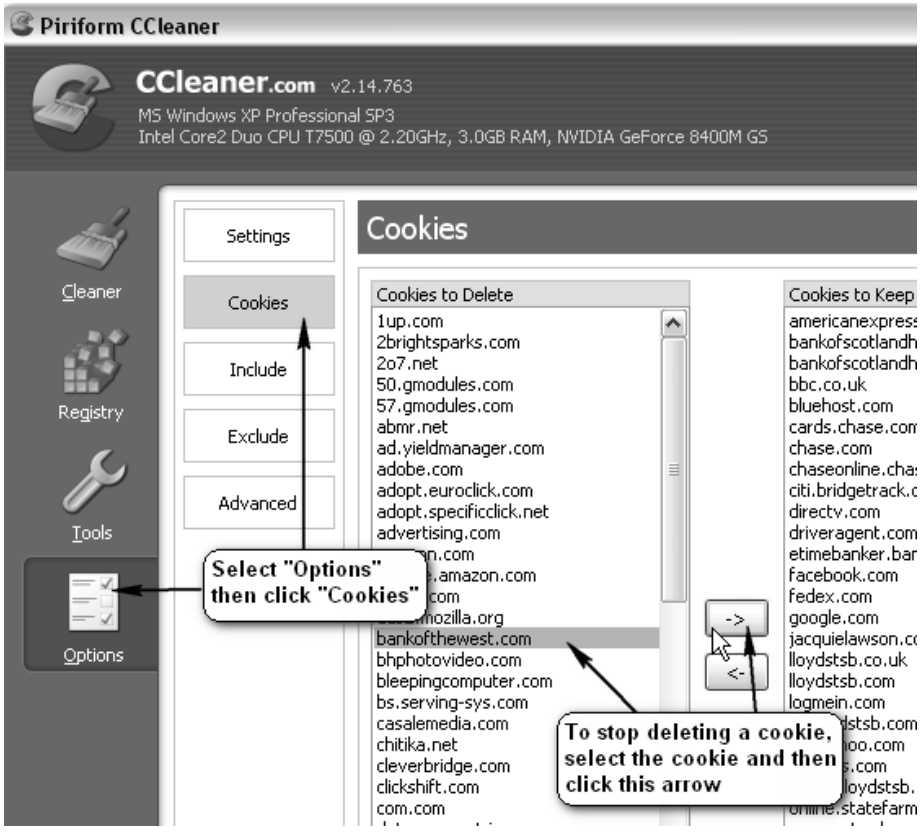


Open CCleaner and you will see the main cleaner page. All the items that can be removed are shown in various groups, together with a check mark to indicate if you want that item cleaned. There are two tabs, "Windows" and "Applications". In the Windows tab, I normally check all items as shown. Similarly for the Application tab. There is a description of each of these file types, on the last page.



Note: Since I limit the size of my Recycle bin and would limit it's usefulness if I kept emptying it, you'll see I leave this unchecked.

The next step is to set up the options – particularly for cookies. This is a great feature of this utility – that you can select cookies you do not want to remove. *Click* **Options** and **Cookies** and then use the arrow buttons to move the cookies between the two columns.



Having made the selections, return to Cleaner and *click* the **Analyze** button. This runs a simulation, allowing a check of all the files that will be deleted. If all is ok,

click the "**Run Cleaner**" button to remove much of the junk from your computer.

From now on, all that's needed on a weekly basis, is to open CCleaner, *click* the "Run Cleaner" button and the junk will be removed as per the options selected.

7. Cleaning the registry.

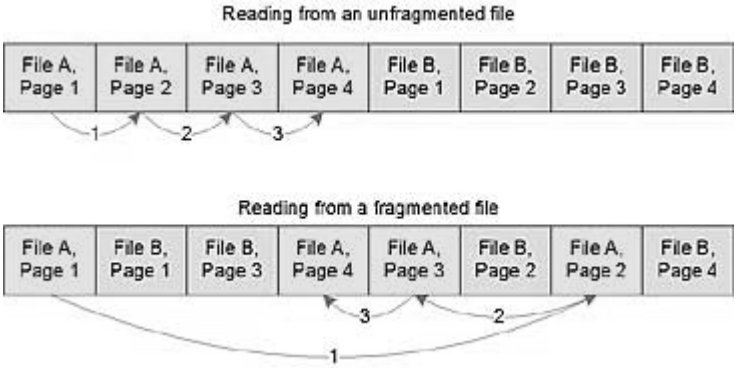
The registry is a large file where programs keep information they need about where you keep your documents, or where a program keeps it's data file. Often, when programs are removed from your computer, they don't "clean up" all their entries from the registry. CCleaner has a very safe registry cleanup function.

Open CCleaner and *click* the **Registry** button. Leave all the check marks checked, and *click* "**Scan for Issues**". When complete, *click* "**Fix Selected Items**". I recommend you *click* "**Yes**" to make a backup of the deleted items. Then click "**Fix all Selected Issues**" and **OK** and then **Close**. It's important to repeat this whole process until CCleaner reports "No Issues Found".

8. Defragment Hard Drives

I hate newspaper articles that start on the front page but continue somewhere in the middle of the newspaper. I could get through the article much faster if it was printed on consecutive pages like a magazine article. Files on your computer can either be **fragmented** like a newspaper, or **unfragmented** like a magazine. Over time, more and more files become fragmented. When a file is fragmented, it takes longer for the computer to read it because it has to skip to different sections of the hard disk—just like it takes me a few seconds to find a page in the middle of a newspaper. The figure compares how a computer reads unfragmented and fragmented files.

You cannot work on your computer and defrag your computer at the same time. It is common for disk defragmenter to take a long time. The time can vary from 10 minutes to many hours, so run the Disk Defragmenter when you don't need to use the computer! If you defragment regularly, the time taken to complete will be quite short.

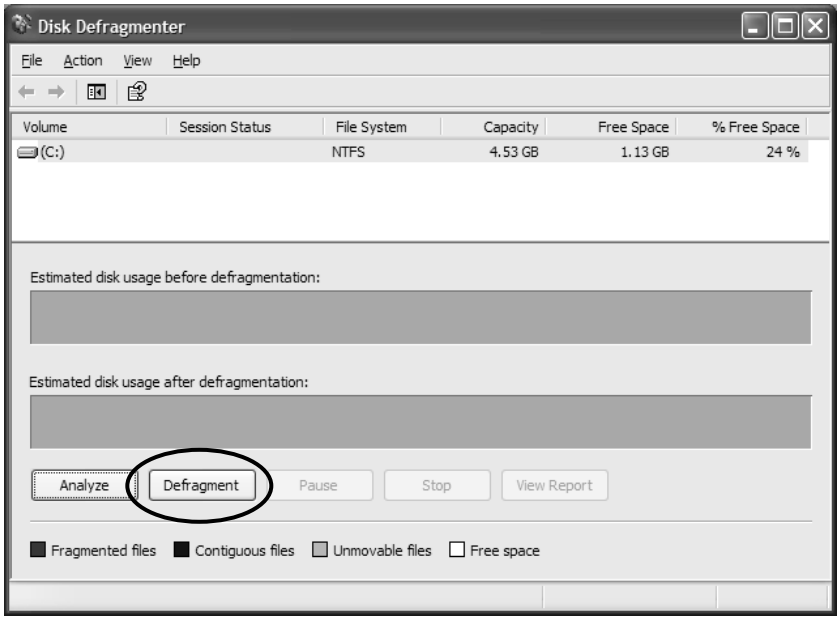


To run the Disk Defrag utility do the following.

Make sure ALL programs are closed

If necessary, turn off your screensaver.

1. *Click* on **Start** on the task bar.
2. Point to **All Programs**.
3. Point to **Accessories.** Point to **System Tools.**
4. *Click* **Disk Defragmenter** (see figure in section 1) The Disk Defragmenter window appears.



Note: You can also get to this screen as follows. *Double-click* **My Computer.** *Right-click* the drive (volume) you want to analyze or defragment. *Click* **Properties**. *Click* the **Tools** tab. *Click* the **Defragment Now** button**.**

Click the **Defragment** button.

The Disk Defragmenter window consists of two main areas. The upper portion lists the disk (volume) on your computer. The lower portion displays graphical representations of the amount of fragmentation on the disk before and after running defrag.

9. Automating Cleanup and Defrag

As removing all the temporary files and defraging the hard drive should both be done regularly, why not use the Windows Task Scheduler to perform these tasks automatically. The Task Scheduler can run both these tasks on a regular schedule.

Note: For the tasks to run, your computer **must** be on (can be in Standby).

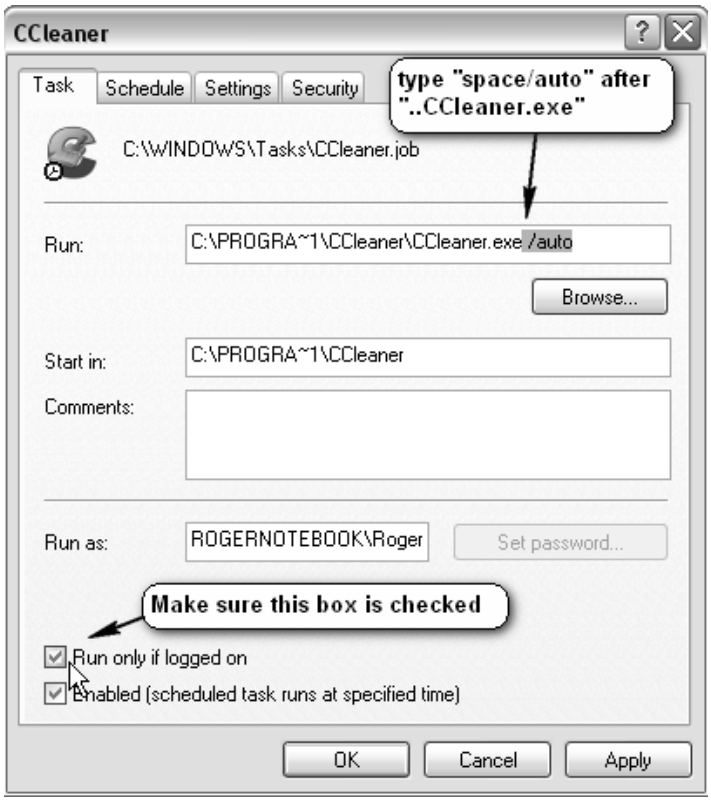
To schedule these tasks:

1. Open the **Control Panel** (Start>Control Panel) and *double-click* **Scheduled Tasks**
2. *Double-click* **Add Scheduled Tasks** to open the Scheduled Tasks Wizard. *Click* **Next**…..

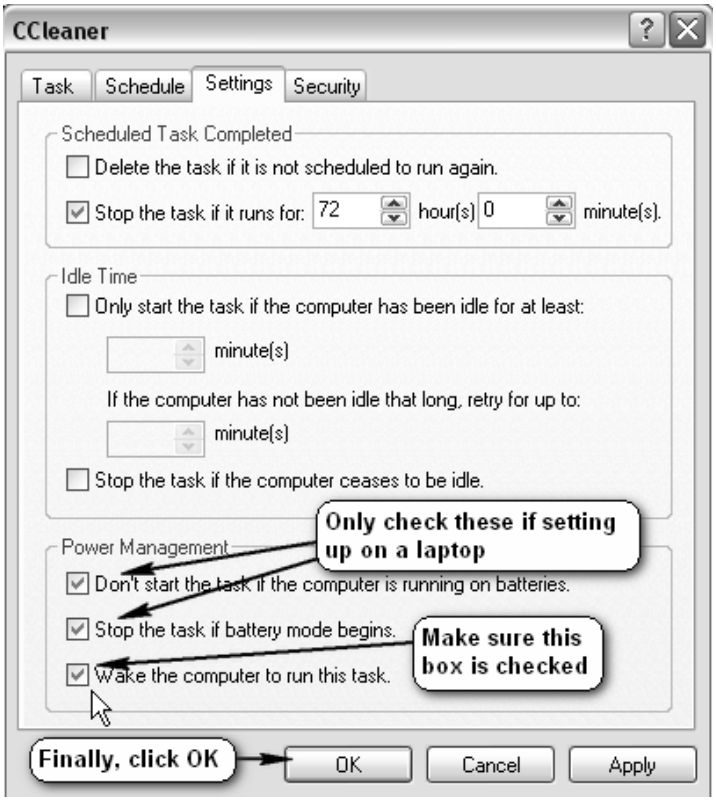
Setup a CCleaner schedule:

3. In the wizard, scroll down till you find CCleaner, and select it. *Click* **Next**
4. In the next window, select how often you want to perform this task. If you want to do it every day, then selecting "When my computer starts" is a good choice. *Click* **Next**.
5. Now you can select the time and day(s) you want **CCleaner** to run and *click* **Next** again.

6. The window that now appears asks for a password. Leave these blank and *click* **Next** again and *click* the **Finish** button. If a warning message appears, *click* **OK** to make it disappear.
7. In the Scheduled Tasks window, *double click* **CCleaner**
8. In the **Task** tab, in the Run: line, after "..CCleaner.exe" type a space, then "/auto" as shown in the figure. Make sure the "**Run only if logged on**" is checked.
9. Select the "**Settings**" tab. Note the 2 check boxes that should only be checked if this is running on a laptop. (See second figure)
10. Make sure that the "**Wake the computer to run this task**" is checked. This ensures the computer will be brought out of sleep/standby to run the task. *Click* **OK** (See second figure)



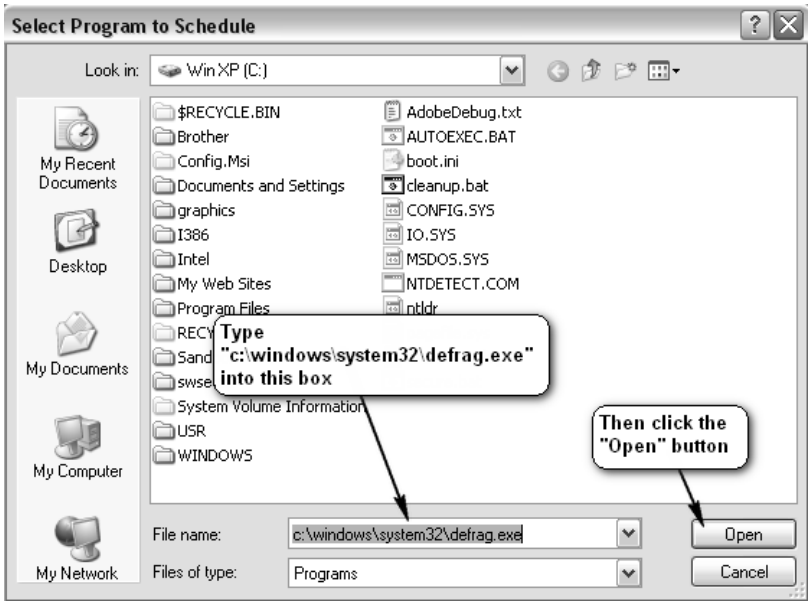
Step 8



Steps 9&10

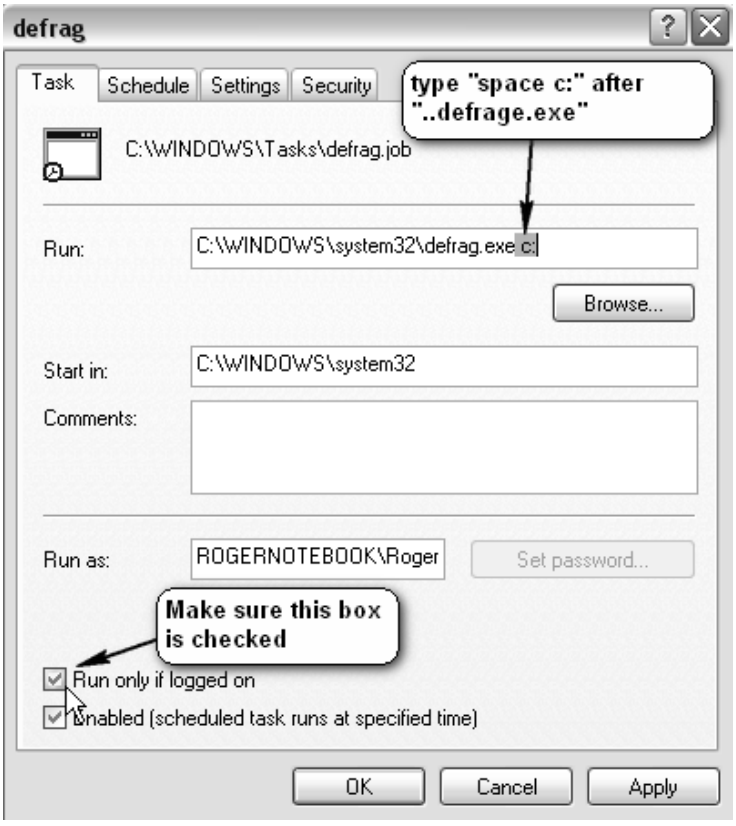
Setup a Defrag schedule.

Follow instructions 1 & 2 above.



Step 3

3. In the wizard, *click* the **Browse** button and in the File name box, type "c:\windows\system32\defrag.exe" and *click* the **Open** button. (see figure).
4. In the next window, select how often you want to perform this task. Weekly is good. *Click* **Next**.
5. Now you can select the time and day(s) you want **defrag** to run and *click* **Next** again.
6. The window that now appears asks for a password. Leave these blank and *click* **Next** again and *click* the **Finish** button. If a warning message appears, *click* **OK** to make it disappear.
7. In the Scheduled Tasks window, *double click* **defrag**.
8. In the **Task** tab, in the Run: line, after "..defrag.exe" type a space, then "c:" as shown in the figure. Make sure the "**Run only if logged on**" is checked.
9. Select the "**Settings**" tab. Note the 2 check boxes that should only be checked if this is running on a laptop. (See second figure)



Steps 9&10

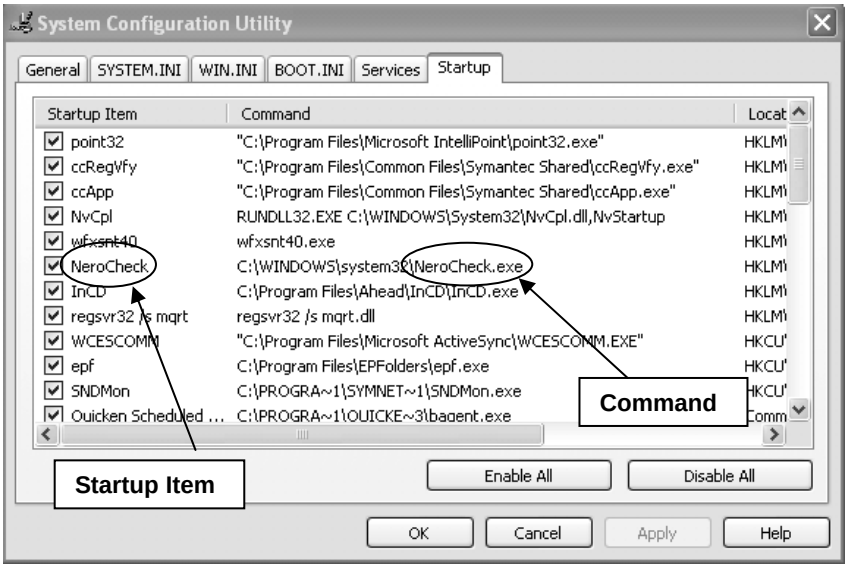
10. Make sure that the "**Wake the computer to run this task**" is checked. This ensures the computer will be brought out of sleep/standby to run the task. *Click* **OK** (See second figure)

10. Remove Autostart Programs

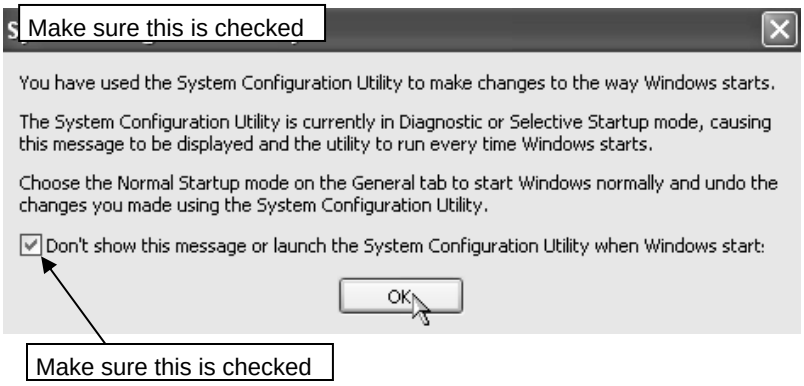
This next step in restoring your computer's performance can often be the most significant. We need to identify any unnecessary programs that start automatically. Often, these programs configure themselves to run in the background so that they appear to start quickly when needed. Some of these programs show an icon on your taskbar to let you know that they're running, while others are completely hidden. These autostart programs can often slow down your computer as it starts up, and will steal away memory and processing time as your computer runs.

Some **auto Startup** entries are important programs (e.g. an Anti Virus program) or drivers required for some of the computers hardware. So you should **not** simply disable everything that you don't recognize. There are a number of tools to help manage these programs, Windows XP comes with the **System Configuration tool** (msconfig.exe), one way to manage the startup process. To open this utility:

1. Click **Start**, click **Run**, type **msconfig**, and then press Enter
2. On the **Startup** tab, you'll see a list of all the programs and processes that are set to run when Windows XP loads.
3. Speed up your overall start time by clearing the check box next to unneeded startup programs. (**see below**)
4. Click **Apply**, and then restart your computer for the changes to take effect.



NOTE: When an item is unchecked, it is **NOT deleted**, but just disabled from loading. If you find later that this file is required at start up, then it can be enabled by rechecking that file.



Important. **If you use the "msconfig" utility, when you reboot the computer, a window will appear notifying you that the System configuration Utility has been used. Make sure you place a check mark as shown, and then click OK.**

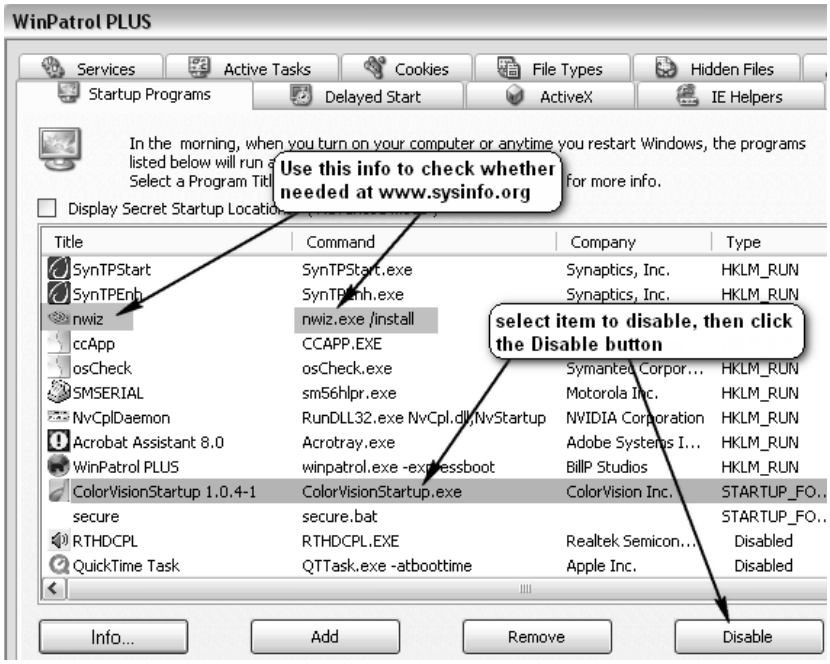
Using WinPatrol (freeware)

WinPatrol is an excellent tool to manage your auto startup programs. Besides being able to disable startup items, it also provides warnings if a new program tries to add itself to your start up list (spyware will often do this), or make changes to your internet browser settings (again, often done by spyware). Download "wpsetup.exe" to your desktop from http://www.winpatrol.com/download.html and double-click to start installation.

Click the **Run** button, then *click* **Next,** then **Install,** then **Finish**. WinPatrol should now be installed and running.

Open WinPatrol by *double-clicking* the **Icon** in the Systray.

With WinPatrol open and the Startup Programs tab selected, the Title and Command can be viewed for all Startup Programs. This information is needed to check what this program does (see next section). To disable an item, select it and *click* the **Disable** button.



NOTE: When an item is disabled, it is **NOT deleted**, but just disabled from loading. If you find later that this file is required at start up, then it can be enabled by selecting it and clicking the Enable button.

Checking for Startup Programs. You should look up each entry at www.sysinfo.org At this website, click "Full Startup List" and then type in the "Startup Item" to the search box and click the Search button. When an entry is found, check that both it's Startup Item name and the last name in the Command are the same as on your computer. By the side of the entry will be a description of the startup item and a code as to whether this is required to start automatically. Another site that provides similar info is www.answersthatwork.com Click on **Task List** and then click the letter of the first letter of the file you're trying to identify

For example, the figure shows a program called **ccApp.exe** that is set to start automatically. I visited The Startup Applications List, typed in **ccApp** and discovered that "ccApp.exe is Part of Norton AntiVirus. Auto-protect and E-mail will not function without this." This is obviously a necessary file, so it will stay!.

11. Malware Protection

Malware is an ever changing problem. Currently, the most serious threats are coming from visiting a contaminated web site that contains malicious code to exploit a security hole in an application. These security holes can be in many programs, such as:

- Windows operating system
- Internet browser (Internet Explorer, Firefox, etc.)
- Adobe Acrobat reader
- Java script
- Flash, etc.

So what can be done?

1. It's essential to run a memory resident Anti-Virus/Anti-Spyware tool, such as Norton, McAfee, CA, Sophos, NOD32, Avira, AVG. There is never one product that guarantees to find all malware, which is why it's good to use multiple strategies to find malware. However, remember to only install **ONE** memory resident (always running) AV tool. Currently, **Avira** is considered to be one of the better free **AntiVirus/AntiSpyware** tools.
2. You must have a firewall. Again, there are plenty to choose from. Windows XP SP2 provides a very good one way firewall. However, you can also get them as part of an internet security suite. These often come as part of an internet security suite. Online Armor Free Firewall is a good freeware choice.
3. Keep Windows, your internet browser and programs that access the web, fully up-to-date and patched. ***This is very important***
4. Regularly run spyware and rootkit scanners. Your main memory resident AV program, will also have a scanner that you should run, along with other freeware products. Currently, SuperAntiSpyware is getting good reviews, so I would install and run that, along with the good old Spy Bot. You might also want to run F-Secure Backlight (rootkit detection and removal)

Note: Links to download all the above referenced software are on page 18.

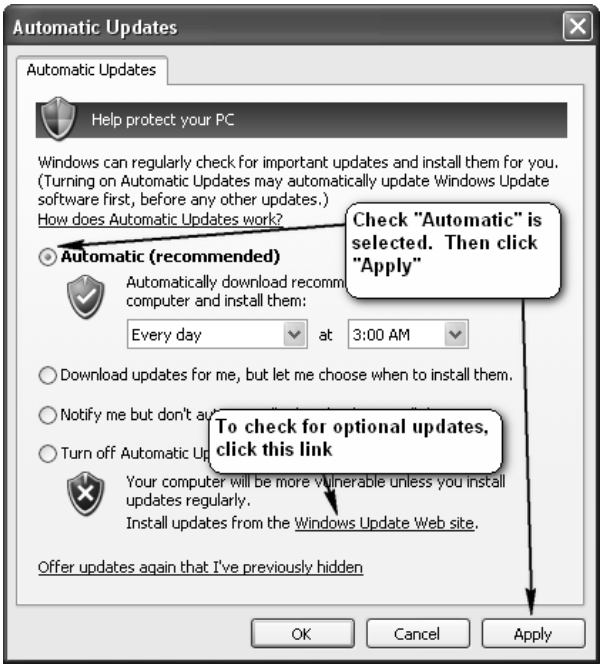
Item 3 is particularly important to avoid being infected from a contaminated website. The easiest way to check if your computer is properly up-to-date is to run the software or on-line scanner from Secunia. We'll run the on-line scanner now. To run this scanner, you do need to have Sun Java installed.

Windows Updates

I recommend that Windows updates be set to automatic, unless you feel competent to assess the value of each update. However, the automatic setting only keeps your computer up-to-date with critical updates. There are often optional updates available that can be reviewed by performing a manual or custom update:

1. *Open* **Control Panel** and *double-click* **Automatic Updates**
2. If not already selected, *click* **Automatic (recommended).** *Click* **Apply.**

3. Near the bottom of the Automatic Updates window, *click* **Windows Update Web site**. When complete, *click* **View available updates** (you must be connected to the internet when you do this)
4. In the **Windows Update** web page, *click* the **Custom** button.



5. In the left pane you can *click* **Software, Optional** and **Hardware, Optional** to review these optional updates.
6. *Check* the **items** you wish to download and install, and *click* the **Install button**

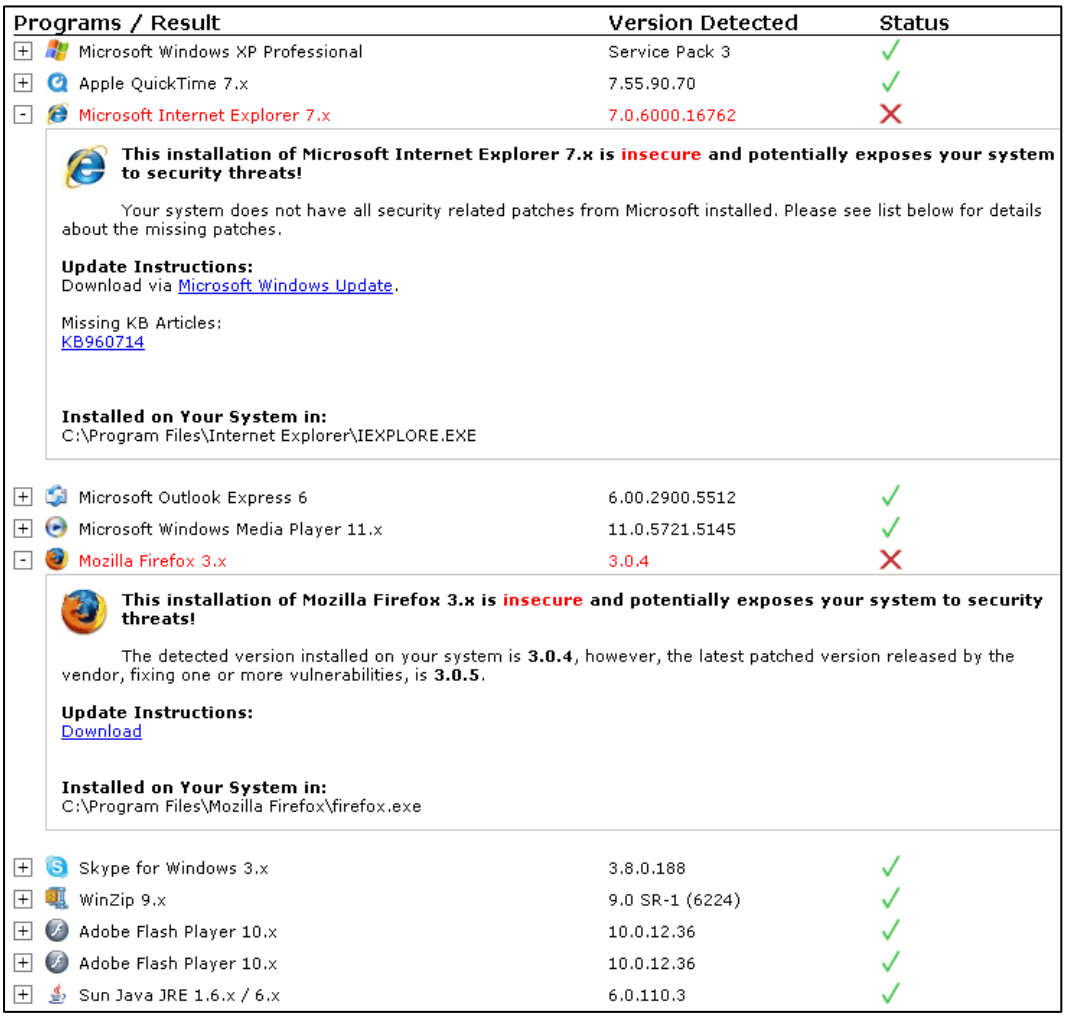
Run the Secunia scanner

Enter http://secunia.com/vulnerability_scanning/online/ into the address bar of your internet browser *Click* the **Start Scanner** button which will open a new page, on which there should be a **Start** and **Stop** button visible. If you can't see these, then you don't have Java installed. *Click* the **Start** button to start the scan. You can also download a utility from Secunia that runs on your computer and checks a wider range of programs on your computer.

The screen shot on the next page shows that in this scan, both Firefox and Internet Explorer needed updating, along with links to get these updates. Most Microsoft updates can be obtained using the Windows update tool. If the Secunia scan indicates

that Sun Java or Adobe Flash need updating, it's usually best to uninstall the old versions, which can be done from the Add/Remove programs, before installing the new versions. Adobe flash can sometimes be difficult to uninstall, so Adobe provides a Flash cleanup/uninstaller tool, available from http://kb.adobe.com/selfservice/viewContent.do?externalId=tn_14157

It's very important to make sure you update all the programs indicated by Secunia that need updating.



Programs / Result	Version Detected	Status
Microsoft Windows XP Professional	Service Pack 3	✓
Apple QuickTime 7.x	7.55.90.70	✓
Microsoft Internet Explorer 7.x	7.0.6000.16762	✗

This installation of Microsoft Internet Explorer 7.x is insecure and potentially exposes your system to security threats!

Your system does not have all security related patches from Microsoft installed. Please see list below for details about the missing patches.

Update Instructions:
Download via Microsoft Windows Update.

Missing KB Articles:
KB960714

Installed on Your System in:
C:\Program Files\Internet Explorer\IEXPLORE.EXE

Microsoft Outlook Express 6	6.00.2900.5512	✓
Microsoft Windows Media Player 11.x	11.0.5721.5145	✓
Mozilla Firefox 3.x	3.0.4	✗

This installation of Mozilla Firefox 3.x is insecure and potentially exposes your system to security threats!

The detected version installed on your system is **3.0.4**, however, the latest patched version released by the vendor, fixing one or more vulnerabilities, is **3.0.5**.

Update Instructions:
Download

Installed on Your System in:
C:\Program Files\Mozilla Firefox\firefox.exe

Skype for Windows 3.x	3.8.0.188	✓
WinZip 9.x	9.0 SR-1 (6224)	✓
Adobe Flash Player 10.x	10.0.12.36	✓
Adobe Flash Player 10.x	10.0.12.36	✓
Sun Java JRE 1.6.x / 6.x	6.0.110.3	✓

The ultimate protection from malicious web sites, is to run your internet browser inside a "sandbox". There is an excellent freeware program called Sandboxie, availabe from www.sandboxie.com You can read more about how to install and use sandboxie from a previous seminar at GCCLC. A video of the PowerPoint slides can be downloaded from http://www.gcclc.org/misc/sem_mat/SurfSafely(using_a_sandbox).exe Notes that give a background to malware that accompanied this seminar can also be downloaded in pdf format from http://www.gcclc.org/misc/sem_mat/SurfSafely_CleanComputer.pdf

That's it, so this should both improve the performance and security when surfing the web, of your computer.

Useful freeware sites:

CCleaner: www.ccleaner.com and
download: http://www.filehippo.com/download_ccleaner/

WinPatrol: http://www.winpatrol.com/download.html

Avira free Anti-virus: http://www.free-av.com

AVG free Anti-virus: http://free.avg.com/download-avg-anti-virus-free-edition

SuperAntiSpyware: http://www.superantispyware.com/superantispywarefreevspro.html

Spybot: www.safer-networking.org/en/download/

F-Secure Backlight rootkit tool: http://www.f-secure.com/security_center/ then scroll down to the Downloads and click on the **Blacklight** link.

Online Armor Personal Firewall:
about: http://www.tallemu.com/product_overview.html
download: http://www.download.com/Online-Armor-Personal-Firewall/3000-10435_4-10426782.html?tag=lst-1&cdlPid=10989958

Sunbelt Personal Firewall: http://www.sunbeltsoftware.com/Home-Home-Office/Sunbelt-Personal-Firewall/

Check information about **"Start Up"** programs: www.sysinfo.org and
www.answersthatwork.com/Tasklist_pages/tasklist.htm

A source for many good **Spyware, Antivirus and Firewall** products:
www.thefreecountry.com/security/

Secunia on line scanner: http://secunia.com/vulnerability_scanning/online/

Old Flash removal: Flash cleanup/uninstaller tool, available from
http://kb.adobe.com/selfservice/viewContent.do?externalId=tn_14157

List of files types cleaned by CCleaner

Windows Tab

Internet Explorer

Temporary Internet Files

This is the Internet Cache for IE. It saves the web pages and pictures from the sites you're visiting to your hard disk. These can build up over time to consume a large amount of disk space and may potentially contain personal information. Selecting this option will safely remove the files.

Cookies

Cookies are small text files that Web sites save on your computer to help your browsers remember specific information. For example, they might store your username and password. They are also used to store your preferences for personalized pages or to build a profile of which sites you visit and which banner ads you click on. Advertisers use this information to deliver targeted ads directly to your computer. Selecting this option will safely remove the files. You may wish to keep certain cookies, these may be selected on the Options window.

History

Much like the Internet Cache, IE also records and stores the addresses of all the websites you have visited. Selecting this option will safely remove the record of websites you have visited.

Recently Typed URLs

Any website addresses you manually type into the address bar are stored and displayed in the address drop-down box. Selecting this option will safely remove the record of typed in addresses.

Delete Index.dat files

Although essentially undocumented by Microsoft there are several hidden files, all with the filename index.dat that reside in directories on your system. These permanently cache website addresses and cookies from sites you have visited. This list is never deleted and gradually increases in size, resulting in IE slowing down. Selecting this option will mark these files for deletion the next time your computer is rebooted. (Unfortuately these files cannot be deleted immediately as they are permanently in use by the operating system.)

Last Download Location

When you download a file from the internet, IE remembers the directory location you chose. Selecting this option will clear the last directory, and reset to the default folder. Which on most systems is the desktop.

Autocomplete Form History

When you type in a username and password on a webpage, IE frequently prompts you to select whether you'd like it to remember these details for next time. Whilst this is very useful and may save you time logging in. It can be a security risk as other people will be able to log in from your computer. Selecting this option with remove any stored usernames and passwords.

Windows Explorer

Recent Documents

When you open a document or file in Windows, a record of this is stored under the Recent Documents list on the Start menu. Selecting this option will clear this list. (Note: The documents themselves are left untouched.)

Run (in Start Menu)

An alternative to running programs from a shortcut icon, is to type in the application name into the Run form on the start menu. Every time you do this, the program you typed in is added to the drop-down list of previously run programs. Selecting this option will clear this list.

Search Assistant Autocomplete

When you search for a file in Windows Explorer, the file is added to a list of previously searched for files. Selecting this option will clear this list.

Other Explorer MRUs

MRUs (Most Recently Used) are lists within windows and in applications that maintain a list of the last few (normally 4 to 8) opened documents. It is normally located on the File menu of the application. This option clears a range of minor lists within Windows, including common dialogs, network drives and DirectX applications.

System

Empty Recycle Bin

This option will empty the Recycle Bin.

Temporary Files

Many applications use temporary files when working to save information. These are normally deleted upon exit, but occasionally they can be left behind. Normally when the program is not shut down properly. This option will safely delete these files. (By default it only removes files that haven't been used in the last 10 days, this prevents current temp files from being removed. There is an option to turn off this feature on the Options window.)

Clipboard

The windows clipboard can contain personal information you've copied from documents and also if it contains a large amount of data, it can use up a lot of memory. This option clears the clipboard and frees up the memory being used.

Memory Dumps

When windows crashes or blue screens the system saves a memory dump, potentially containing information about how the crash happened. This data is generally never needed, even by advanced computer professionals and may be safely deleted. This option will remove these memory dumps.

Chkdsk File Fragments

Chkdsk (CheckDisk) is the utility windows uses to scan the hard disk for files errors. Sometimes it finds fragments of files left on your system. These are saved as .CHK files on your system drive. In most cases these files are never needed and may be safely deleted. Selecting this option will remove these files.

Windows Log Files

When you install a new program or piece of hardware Windows logs the changes to .LOG files in the Windows directory. In most cases these files will never be needed, even for advanced users. This option will safely delete these files.

Old Prefetch Data

In Windows XP a Prefetch file is generated each time an application is run. This helps Windows optimise the application the next time it is executed. Unfortunately these files are not deleted when the applications are removed. This option removes these files for programs that haven't been accessed in 14 days. (This process is very safe and Windows will recreate the files as necessary.)

IIS Log Files

IIS (Internet Information Server) is the service Windows uses to display web pages. This comes with most XP Pro and Windows 2000 installations and is generally only used by web developers or designers. Every time someone requests a page it gets logged to a text file. Unless the computer is a web server, these are generally not needed, and may be safely deleted. This option will safely delete these files.

Advanced

Menu Order Cache

The Start menu allows you to set a custom order to the programs listed, although there's no option to sort all folders by name. Selecting this option removes any custom ordering from the Start menu.

Tray Notifications Cache

In Windows XP the System Tray (the set of icons next to the clock in the bottom-right corner) orders and hides items automatically for you. Whilst this is useful, it records a list of every program that has been run from the tray. This option clears the list of previous programs and removes any custom display/hide options. (Warning: This won't have any affect until you manually restart the explorer process from the Task Manager.)

Window Size/Location Cache

Windows Explorer stores the view formatting and ordering settings for each folder on your system. After some time, this can contain a large amount of redundant data and may even slow down browsing for files on your system. Selecting this option will clear this data and reset the Windows Explorer display settings to their default option.

User Assist History

The start menu on Windows XP displays a list of the most recently run programs. Selecting this option will clear this list.