

Your Computer: Avoiding Fatal Disasters

or

The MOST BASIC Care and Maintenance of Your Computer

What Microsoft, IBM, Apple, Compaq, etc., etc., PRESUME you know!

Helpful hints, BASIC, primitive care, disaster prevention, avoiding “fatal errors,” lost files, “illegal operations” and system lockup, frustration, mysteries, and apparent demonic possession of your personal computer.

The following is a set of absolute minimum knowledge needed to avoid the most common computer disasters along with some tips on the latest advanced features. We recommend reading the complete manual, but some specifics are:

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Software Maintenance

To secure your personal work and data, and to avoid the most common pitfalls, please utilize the following precautions:

- ◆ **For your Word Processing documents** (Word, Word Perfect docs, etc.) as well as data files of other sorts that you may create (like a spreadsheet in Excel, Quatro Pro, etc.), you should set your program to do *automated* backups. For example, in either of the aforementioned word processing programs, you may set your system to automatically backup *the file you are currently typing into the machine* every ten minutes (or whatever time you decide). This will prevent a catastrophic loss in the event of either a power failure or accident like tripping over the cord and pulling it out of the socket, thereby causing you to lose everything you've typed in the current work session since you last saved the document. If you do this, then you will only lose 10 minutes of work at most. If you don't, you are likely to lose hours of work someday, and that work will be irretrievable! To do this:

In Word Perfect:

- 1 - Click **Tools** (on the tool bar);
- 2 - Click **Settings**;
- 3 - Click the **Files** icon;
- 4 - Click **Timed Backup Every**;
- 5 - Fill in the time you want it to wait between backups (10 minutes is recommended);
- 6 - Click **OK**.

In Microsoft Word:

- 1 - Click **Tools**;
- 2 - Click **Preferences**;
- 3 - Click the **SAVE** tab;
- 4 - Click the **save auto recovery** box;
- 5 - Fill in the time you want it to wait between backups (10 minutes is recommended).
- 6 - Click **OK**.

For other software products follow the manufacturer's special instructions in your manual or HELP function.

- ◆ **Backup Your Data Files Regularly**

No one can recover the lost files you have created, no matter what program you have used.

Despite notions to the contrary, computers fail, floppy disks will wear out over the years and lose the magnetic information, hard drives have a limited life span, and even whole computers themselves have been known to succumb to the general mortality that seems to pervade the universe. Therefore, if you have files that you have created that you consider important, irreplaceable, significant contributions to humanity, etc., or have files that would cause severe *angst* should they perish, then make backup copies **NOW!** Loss of files have been attributed to power surges, electrical storms, brown-outs undetectable to the human eye, a slip of the finger, bugs, demons, poltergeists, spilled coffee, etc. Chances are, if you *don't* make backup copies you will one day regret it. There are very many possibilities for backing up your files. There are many peripherals on the market, some cheap, some expensive, that claim to be the ultimate solution to the backup problem. ***Do not believe this.*** This is generally, if not a bald-faced lie, an exaggeration. All devices are vulnerable. It is not paranoid to make multiple copies, stored in different locations of important documents like a book in progress, a dissertation, etc. If you have nothing else, make copies of files you have stored in the computer's hard drive onto floppies - *multiple* copies of very important works! Be assured, there is NO ASSURANCE or permanency in storage devices. Do NOT believe claims to the contrary. Backups can be made as simply as saving the document on the hard drive originally and then using "drag and drop" (while holding the mouse button down while the pointer is on the file you want to copy, move it to another drive's icon - like the drive A: icon) to copy it to another location. Making a copy on the same hard drive in another folder is not a viable solution. Make a copy on another medium, like floppy from hard drive, zip, CD/DVD, etc.

- * Keep your documents in one folder and if necessary, sub-folders within your one document folder. This will enable easy location and copying of personal data files.

- * Store program disks (like system files, programs, etc.) in a secure place (this presumes you have legal copies of all your software and is another incentive to have legal copies).

- * Keep food, beverages, cigars, pipes, cigarettes, etc. away from all apertures on your computer, floppies, keyboards, and all peripherals. It is not an exaggeration to say that each of these can cause severe damage.

- * **Use anti-virus software** to detect viruses that can cause substantial damage to files in your computer. Be careful what you download off the Internet. The Internet has increasingly become a popular means of transporting viruses to personal computers, be it in the form of free software and especially via Email. Another frequent source of transmission is from personal disks passed around with "gifts," texts, etc. The best Anti-virus software, like eTrust and Symantec, etc. can be set to check floppies and downloads.

- * **Set your Software to Update your Virus Definitions regularly.** Even if you installed an excellent antivirus program onto your machine today, it is probably already out of date. Fine programs like the University's licensed eTrust from Computer Associates, Symantec's (Norton's) Anti-virus and McAfee Anti-virus, provide free updates via the Internet as each new batch of virus threats present themselves, and they do almost daily. In August-September '99 there were weekly updates for multiple new viruses and in the same period in '03 many networks were shut down completely due to negligence in keeping anti-virus software updated. Please follow the update directions in

the manual of the specific virus program you own. Faculty office computers may request Computer Associates' "Innoculate" antivirus program (eTrust) for which the University has a site license. This program can be set to do automatic updates without user intervention, as can the latest versions of the other popular antivirus programs.

Hardware Maintenance

To prolong equipment life and avoid some typical hardware and software problems, please utilize the following suggestions:

- * Keep your computer and diskettes away from any magnetized objects. Phones, copiers, stereo equipment, or devices with motors generate a magnetic field that may damage your data.
- * Keep your system away from heating and air conditioning vents, radiators, cigar, cigarette smoke, and open windows. This will prevent temperature fluctuations in your system hardware and reduce airborne particles like dust and smoke from entering your system.
- * Do not place obstructions against vents and fans that will cause your system to overheat, causing erratic behavior.
- * Use a mouse pad to prevent dirt, dust, etc., from clinging to the ball, requiring cleaning for the mouse to operate properly.
- * Except for USB or Firewire connectors, never unplug a component while your system is running. Exit all programs and shut down your computer when plugging or unplugging computer devices or peripherals. Ignoring this advice can easily result in a short, therefore damaging either your computer or the device you are adding or removing. USB & FireWire devices are the only ones that can be safely plugged in and out while the computer is running. They are made to be able to do this without causing harm.
- * Buy a Surge Protector. Surge Protectors are special power strips that absorb any power surges that may seriously damage memory chips and other components. You may want to shut your computer down during severe thunderstorms.
- * Be careful using any machine manufactured before January 1, 2001. For these use anti-static mats under your computer. This will decrease the amount of static electricity in the vicinity of your computer. Static electricity is one of the primary causes of data loss.
- * Be careful with the power button on your computer. Gently press it to turn your computer on, and hold it in 5-10 seconds if you need to power down your computer. Pressing this button too hard can cause it to break, needing expensive repair.

Tips for Windows 95 and 98 Users

* **Defragment your hard disk drive for peak performance.** Files and applications are stored on your hard drive in units. These units may be scattered on different locations on the hard drive causing your computer to work harder to retrieve them. Running Disk Defragmenter puts all of these files and applications into contiguous groups allowing

the computer to access them more quickly. Follow the procedures below to run the Disk Defragmenter.

- 1 - Click **Start**, point to **Programs**, point to **Accessories**, point to **System Tools**, and then click **Disk Defragmenter**;
- 2 - Click the **Settings** tab, select the check boxes you want (to ensure fastest start up of programs, select the first box,) and then click **OK**. (There is no Settings tab in Windows 95.);
- 3 - Click the drive you want to defragment, click **OK**, and then click **Yes**.

* **Clean up your hard disk drive with ScanDisk.** Through normal use of your computer, files on the hard drive may become damaged, cross-linked, or become dissociated with their file names. Running ScanDisk on a weekly basis can correct much of this corruption. To run ScanDisk, use the following procedures:

- 1 - Click the **Start** button;
- 2 - Point to **Programs**, point to **Accessories**, point to **System Tools**, and then click **ScanDisk**;
- 3 - Click the drive you want to scan, and choose either the Standard Test (Checks files and folders) or Thorough Test (performs standard test and scans disk surface for errors but takes much longer);
- 4 - Click **Start**.

Tips for Windows '98 users:

* The above two maintenance tasks (defragmenting and disk cleanup) should be automated. To do this in windows '98:

- 1 - Click **Start**;
- 2 - Click **programs**;
- 3 - Click **accessories**;
- 4 - Click **System tools**;
- 5 - Click **maintenance wizard**;
- 6 - Click **express**;
- 7 - Click next and follow the directions supplied.

Suggested settings: Defragment and Scandisk and Remove temporary files (disk cleanup) weekly when you know your computer will NOT be in use but turned on.

Keep Windows '98 Updated.

* Windows '98 comes with a simple way to install upgrades which is simple to

use, keeps your system fine tuned, and is free! If you have an Internet connection and haven't been updating regularly, use the following procedure:

- 1 - Click **Start**;
- 2 - Click **Windows Update** at the top of the pop up menu; this will automatically run Internet Explorer and take you to the Windows '98 update page;
- 3 - When the update page has loaded, click **Product Updates**;
- 4 - Check *at least* all the **critical updates** and any other optional updates and free software (desktop themes, language modules, etc.) you wish;
- 5 - Click **Start Download**;
- 6 - The updates will download and automatically install on your machine;
- 7 - When prompted to do so, reboot.

* One of the choices is an applet (small program) that will notify you automatically of any future "critical updates," and it is suggested that you download it so you will be notified of any future free enhancements, fixes, etc.

* If you don't have an internet connection on your own computer, you can order a CD from Microsoft with most of the latest updates on it (www.microsoft.com).

Create a startup or "boot" disk for your computer. (Windows users)

A "boot" disk performs two key functions: First, it will boot up your computer when your computer is not capable of doing so by itself. Second, it allows you to run diagnostic programs to see what is causing the problem. To create a boot disk, follow the procedures below:

Note: You will need a blank, (1.44mb) floppy disk. Any information on the disk will be erased during this procedure.

- 1 - Insert a blank floppy disk;
- 2 - Click **Start**;
- 3 - Point to **Settings** and click **Control Panel**;
- 4 - Click **Add/Remove Programs**;
- 5 - Click the **Startup Disk** tab;
- 6 - Click the **Create Disk** button;
- 7 - When finished, click **OK** to exit the Add/Remove Programs Properties dialog box.

Tips for Windows XP/2000 Users

* **Defragmenting:**

Windows XP and 2000, like Windows '95 & '98, have a built-in defragmenting program which should be used regularly. But unlike Windows '98, you cannot schedule unattended defragmenting unless you purchase a third party program such as Diskeeper 7.0 (which we recommend). If you do not purchase a third-party defragmenting program, do manually run the built-in program at least once a month. You can find and run it in the following way:

- 1 - Click START;
- 2 - Click PROGRAMS;
- 3 - Click ACCESSORIES;
- 4 - Click SYSTEM TOOLS;
- 5 - Click DEFRAGMENTER;
- 6 - Click DEFRAGMENT.

*** Running Legacy (Older, incompatible) Programs with Windows XP:**

If you're having trouble running older programs originally developed for previous versions of Windows, you're not out of luck. Luckily for consumers, Microsoft built Compatibility Mode into XP. Compatibility Mode allows you to run a program using the shell of the original program it was developed for.

Here's how to access a program's Compatibility Mode in XP:

- 1 - Find the executable or program shortcut icon you'd like to run.
- 2 - Right-click the icon and select Properties.
- 3- Click the Compatibility tab and place a checkmark next to the text labeled "Run this program in compatibility mode."
- 4 - Select the operating system that the program was originally intended to run on.
- 5 - You may need to fine-tune the three fields under "Display Settings" if an older program requires 640x480 resolution or 256 colors.
- 6 - Click Apply.

Try starting the program after making these changes. If it still gives you trouble, try a different operating system. If the program was written for Win '95 and worked fine in Win '98, there's nothing that says it still won't work fine with Win XP.

Windows Automatic Updates

As with previous versions of Windows, we highly recommend that you keep your Windows system up to date by regularly running Windows update. You may set the system to do the most important updates automatically, but as with previous versions, we recommend that you regularly check for both system updates and driver updates using the built-in update procedure (click START, WINDOWS UPDATE). This is *in addition* to the built-in automatic update

which only updates critical files.

*** Setting up AUTOMATIC updates (Highly recommended):**

- 1 - RIGHT click the "My Computer" icon on the desktop;
- 2 - click PROPERTIES on the pop-up window;
- 3 - click the "automatic updates" tab at the top;
- 4 - click "download updates automatically."

Advanced Features of Windows XP:

Before Making Major System Changes and System Restore

Windows XP makes it easy for you to take a snapshot of critical system files before you make any major changes, such as installing new software, adding hardware devices, or changing the registry. (Windows XP automatically creates system restore points, called system checkpoints, but you can create your own to make it even easier to recover your system in case of a failure.) Note that using restore points doesn't affect your personal files, such as the My Documents or Favorites folders. To create restore points:

- 1 - Click Start, point to All Programs, point to Accessories, point to System Tools, and then click System Restore.
- 2 - In the System Restore dialog box, click Create a restore point, and then click Next.
- 3 - Type a description for your restore point, such as "Before Office XP", then click Create.
- 4 - If your system fails, press F8 in the boot menu, and then click Last known good configuration. Windows XP restores your system to the most recent restore point.

*** Device Driver Rollback**

One of XP's new features is the Device Driver Rollback. With this feature you finally have the option to quickly go back to a previous version of a device driver if the updated driver causes problems. When you update a driver, the old one will be saved to a special directory in Windows.

You won't have the option to roll back a driver if you've never updated it. Since every device has the ability to roll back its driver, you're going to need to access your Device Manager to do this.

Here's how to access the Driver Rollback feature for a particular device inside the Device Manager:

- 1 - Left-click the Start menu and then select Control Panel;

- 2 - Double-click the Performance and Maintenance icon;
- 3 - Double-click the System icon;
- 4 - Click the Hardware tab;
- 5 - Click the Device Manager button to open the Device Manager;
- 6 - Expand the device menu you'd like to roll back;
- 7 - Locate the device you'd like to roll back and double-click it to bring up its properties;
- 8 - When you launch the properties for a particular device, click on the Driver tab;
- 9 - Click the button labeled "Roll Back Driver" to complete the process.

Easy CD Burning Procedures

If you're running Windows XP, then you don't have to go out and buy expensive CD-recording software. The new operating system from Microsoft features built-in CD burning. When you want to burn a CD using Windows XP:

- 1 - Insert a blank CD-R or CD-RW in your CD drive. You must have a CD-R (writable) or CD-RW (rewritable) drive. A dialog box opens, asking if you want to open a writable CD folder. Click OK.
- 2 - On the Start menu, click My Computer, and navigate to the drive and folder where the files you wish to copy are stored.
- 3 - Select the files you wish to copy, and drag/drop or copy/paste them to the open CD recording folder.
- 4 - In the left pane of the CD folder window, click Write these files to CD.
- 5 - Now you're all set. Just remember not to copy more files to the CD than it will hold: a standard CD holds 650 MB.

Windows XP Error Reports

You can get rid of the Windows XP error report messages if you don't want to send another one in. Start the System Configuration Utility:

- 1 - Click Start, and then click Run.
- 2 - Type msconfig to open the System Configuration Utility.
- 3 - Click the Services tab.
- 4 - Clear the Error Reporting Service check box, and then click OK.
- 5 - Hit Restart to reboot your system.
- 6 - Your computer will now start without loading the error reporting service.

Tips for Macintosh Users

***Rebuilding the Desktop File**

The desktop file on a Macintosh is the file that tells the computer where to look for data (including programs and documents). This file can become jumbled after periods of use, causing the computer to run slowly, or not at all. Consequently, it is a wise idea to rebuild your desktop file every 2 weeks. This will ensure a smooth running happy Mac. To rebuild the desktop file, simply hold down the Command Key (⌘) and the Option Key (⌥) while the computer starts up. When a dialog box appears that asks if you would like to rebuild the desktop file, click yes.

***Using Disk First Aid**

If your hard drive or floppy is damaged, you can use Disk first aid to scan and (possibly) repair the media. To use Disk First Aid, use the following procedures:

- 1 - Insert the System CD that came with your computer into the CD drive;
- 2 - Double click on the **Utilities** Folder;
- 3 - Double click on **Disk First Aid**;
- 4 - Select the disk you wish to repair by clicking once on it;
- 5 - Click **Verify**;
- 6 - If errors are reported, click **Repair**;
- 7 - When finished, go to the File menu and select **Quit**.

*** De-fragmenting an Apple hard drive.**

Though Apple computers don't come with a built-in defragmenting program, the University licenses Norton Utilities for the faculty offices which contains Norton's Speed Disk, a defragmenting program for the Apple computer. We recommend using this and following the program's instructions for scheduling defragmenting on a regular basis.

If you do not have a third party program for defragmentation, there is a more complex (and drastic) means to clean up a drive. Note the importance of backing up your drive beforehand!

The following is from Apple's support pages:

"If you create and delete a large number of files, your hard drive may become fragmented to the point that you may see a slight slow-down of file system performance. At this point you can either use a defragmenting utility, or back up your hard disk, use Apple Drive Setup to reinitialize it, then restore your files.

WARNING: Reinitializing erases all the files on your hard drive. Make sure you have a complete backup because you will need to restore all your files once initialization is complete.

Note: The defragmenting process generally results in a large amount of disk

activity due to the amount of data being rearranged. Some disk defragmenting software packages also cannot completely recover if a critical portion of data on the hard disk should be in "transit" if the software fails. In this instance you may run the risk of losing that specific file or all data on your hard drive.

Apple recommends keeping a current backup of your hard drive. You should fully backup your hard drive before running any defragmentation software."

Troubleshooting the Mac:

*** If your computer freezes:**

- 1 - First attempt to cancel what the computer is currently doing. Press the Command (Apple) and period key at the same time and if a dialog box appears, click cancel.
- 2 - If this doesn't work, try forcing the program to quit. Hold down the Command (Apple), Option, and Escape keys simultaneously. If a dialog box appears, click Force Quit. Save whatever you have open in other programs and restart the computer, just to be safe.
- 3 - If this doesn't work and the computer remains frozen, force the computer to restart. Try holding down the Control, Command (Apple), and Power keys simultaneously. You can also force a restart by finding the computers reset button, which is a small button located, depending on your model, either on the keyboard, on the front of the computer near the power key, or on the back of the computer near the plugs. This key has a small triangle on it. Pressing it should reboot the computer. If this doesn't work, hold down the power key for five seconds until the computer shuts down, then press the power key again to restart the computer. If all else fails, unplug the power cord, re-plug the power cord, and reboot the computer.

*** If your computer freezes during startup:**

- 1 - Turn off all your system extensions by holding down the shift key at start up (In OS X, holding down the shift key boots the computer in safe boot mode, disabling all non-essential processes). If the computer boots successfully with extensions turned off, this means that you have an extension conflict. Open the control panels folder in the system folder and open the extension manager. Look for any new extensions that a recently installed program may have added to your system folder and disable it by un-checking the box next to it. Restart the computer normally. If it boots correctly, then you have found the culprit. Otherwise, start up with extensions turned off again and continue searching for the conflict.

2 - If disabling extensions at start up does not solve the start up freeze or if your computer refuses to start up, attempt resetting the computer's parameter random-access memory (PRAM). In order to do this, start up the computer and immediately hold down the Command (Apple), Option, P, and R keys until you hear the start-up sound a second time. This is called zapping the PRAM and resets all the Finders settings to their default settings. Some people recommend continuing to hold down the keys until the PRAM is effectively zapped 3 times (3 startup sounds), so you can try this if once doesn't work.

Online resources & help for Macintosh Computers:

*** Apple's Support Pages:**

<http://www.apple.com/support>

This is a searchable database provided by Apple of common support and troubleshooting issues.

*** MacFixIt:**

<http://www.macfixit.com>

Website devoted to troubleshooting your Macintosh. Good resource for troubleshooting non-Apple programs on the Macintosh. The main MacFixIt page has the newest news on Macintosh and troubleshooting issues. There is also a searchable database and online discussion groups where you can post your own questions. A good percentage of their services are free, though parts of the site are restricted to people who subscribe to the MacFixIt Pro service, which is comparable in price to a year long subscription to a periodical.

Temporary Internet Files

Every time you visit the Internet, it writes a temporary file to your hard drive. This file is sometimes called the cache. The more sites you visit on the Internet, the larger this temporary file gets causing your machine to slowdown. In order to delete these files and enhance your computer's speed, follow the procedures below:

For Microsoft Internet Explorer 5.X through 6.X

- 1 - Click on **Tools**;
- 2 - in the drop-down menu, click on **Internet Options**;
- 3 - In the General page, you will see a section on Temporary Internet Files. Click the **Delete Files** button;
- 4 - Click **OK**.

For Netscape Communicator 4.X through 7.X

- 1 - Click on **Edit**;
- 2 - Click on **Preferences**;
- 3 - Click on **Advanced**, located on the left hand side of the screen;
- 4 - Click on **Cache**;
- 5 - Click on **Clear Disk Cache**;
- 6 - Click on **OK**.