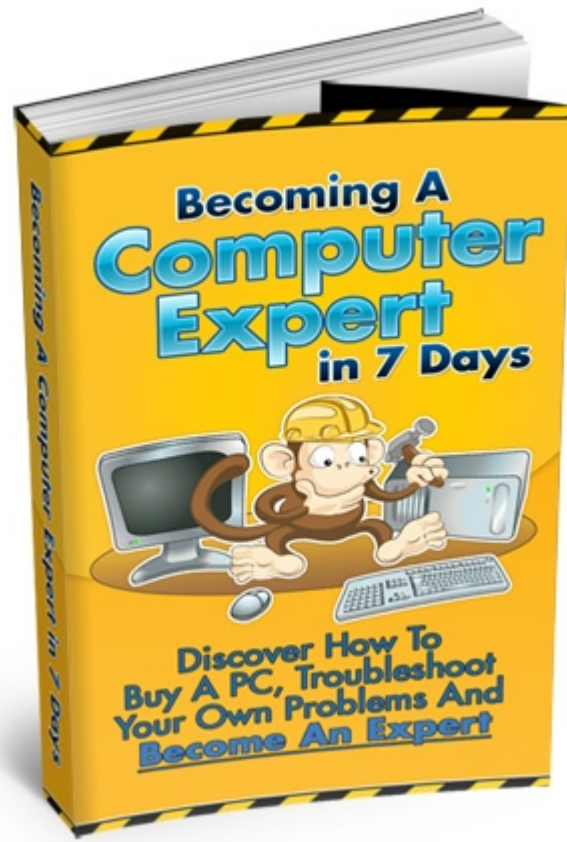


BECOMING A COMPUTER EXPERT IN 7 DAYS OR LESS



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Introduction

This manual will teach you the essential skills you need to know to becoming an expert with your PC. You'll never have to be confused again when the salesman tells you why you need to buy a particular PC model. You'll be able to ask intelligent questions and stop deceiving salesmen from over-charging you.

This guide explains the information you need to know, in a step by step manner. Always try to grasp a particular concept before moving on to the next. If you take time to go through this guide and actually carry out what you've learned, you will become your own computer expert in 7 days or less.

However, this is not a complete guide that will teach you everything you want to know about computers. That would take thousands of pages. But it is enough for an average user to make a decision on what type of PC he needs to buy and to troubleshoot basic problems when they occur.

One of the main objectives of this book is to give you enough knowledge so that you can tell the technicians fixing your PC, that you're not a complete newbie. You can challenge their decisions and also give your own suggestions.

By showing that you too have knowledge with PCs, you'll stop the dishonest salesman from charging you ridiculous prices.

Understanding The Components Of A PC

When you buy a PC package, it contains 3 components:

- the computer
- the LCD monitor
- keyboard and mouse

Normally the price of a PC contains all three of these components. However you need to be careful with some of the prices in the retail shops. Sometimes the prices shown excludes the monitor.

The computer contained in a case, contains a lot of components which make up the entire PC. If any one of these components fail, your PC won't work.

Here's a list of what's inside your PC:

- CPU/Processor
This computer chip determines the speed of your computer and runs your computer programs.
- Hard Disk
Where your programs and data are stored
- RAM (Random Access Memory)
Your computer memory. Provides fast storage for your computer to use. The more RAM you have, the quicker your PC will operate since it can store and execute information on hand.
- Video Card/Graphics Accelerator Card
Generates all the videos, images and text you see on your PC.
- Sound Card/Audio Card
Outputs the sound to your connected speakers. Also includes a socket to plug in your microphone to record sounds.
- Motherboard
A board that connects all your components together.
- Cooling Fan

A small fan which cools down the motherboard and the CPU so that it doesn't overheat.

- CD/DVD Drives
Drives which you can place your CD and DVDs in. Can be recordable.

CPU/Processor

The CPU is considered to be your computer's brain. It executes the programs you run and does the calculations. The speed of your computer is largely defined by the speed of your CPU.

There are two types of CPUs - a 32-bit and a 64-bit processor.

A 64-bit processor will be able to do math with larger numbers. But rarely do you get to that large number when using your computer. The true benefit of a 64-bit processor is that the speed is relatively quicker.

So if you're a powerful PC user, such as using graphical software to do designs, play a lot of 3d games, process a number of huge databases for a particular software, then you don't really need a 64-bit processor.

Many of the applications that are being sold to the general public does not work on a 64-bit processor at the moment.

The 64-bit processor is the way to go for the future, but not for several years. At the moment it's still very expensive and you won't notice that much of a difference. It'll be a pain when you find that a lot of 32-bit applications won't run on your PC.

There are different brands of CPU. The most famous ones are Intel followed closely by AMD. The latter is slightly cheaper than Intel and unless you have a unique application or one that is badly designed, both these brands of processors are fine to work with.

Intel has the stronger brand name but from tests and past experience, the average user won't notice much difference.

Therefore, if you're deciding to choose which brand of CPU to purchase, base your decision on the one with the cheaper price.

Each of these two brands sell different types of processors. For example, Intel has the following range of models for different types of computers:

Desktop – Intel Core Processor Family and Intel Pentium Processor family.

Notebook – Intel Core Processor family and Intel Celeron Family

AMD has the following range of models:

Desktop – AMD Phenom, AMD Athlon, AMD Sempron

Notebook – AMD Turion Mobile Processor, AMD Athlon, AMD Sempron

Don't mean to confuse you too much, but there are many models within these ranges. For example, the Intel Core Processor Family has:

Intel Core i7-965 processor Extreme Edition

Intel Core i7 processor

Intel Core 2 Extreme processor

Intel Core 2 Quad processor

Intel Core 2 Duo processor

Etc....

There are always new models coming out that are faster and better than its predecessors. Unless you're building a powerful network at home or one of your PC applications is accessed by thousands of people online, then you don't need the best processor.

It's recommended that you don't buy the latest processor that is being sold. There's no need for the fastest CPU unless you have lots of money to spend.

The average processor is more than enough to run a PC for a normal user. However it is a good idea to buy an above average processor because Microsoft may launch a new Operating System some time in the near future, which requires a good processor.

You don't want to buy another processor just because you want to run the latest operating system.

Hard Disk

The hard disk (sometimes called hard drive) is where your programs, videos, photos and documents are stored. The current size of the hard disks that are being sold should be very sufficient for your needs.

The standard size is around 120 GB (gigabytes) to 500 GB.

A Gigabyte contains 1,000 MB (Megabytes). So 120Gb is actually 120,000 megabytes.

Unless the user designs a lot of graphics and/or has a lot of videos which they need to store on their hard disk, a 120GB hard disk should be sufficient.

With a 120 GB hard disk, about 20GB of it should be reserved for the operating system and programs. The rest should be for your data.

An MP3 song is around 5MB on average. So with 100GB remaining on your hard disk, you can store 20,000 songs. A normal user will probably use around 40GB for data.

Apart from the size, you should also consider the hard disk's speed when deciding to purchase one. The typical speed of the hard disk ranges from 5,400 rpm (revolutions per minute) to 10,000 rpm.

So if you have the money, it is advised that you choose 10,000 rpm or a step down 7,400 rpm. Both these speeds will do your CPU justice.

There are many different brands of hard disks. The most popular ones are Western Digital, Seagate, Samsung, IBM, Hitachi and Maxtor. The list is pretty long.

When choosing the brand of a hard disk, the decision should be based on what motherboard you are using. Do a search on the internet for the type of motherboard you have and see it's recommended list of supported hard disks.

You should get some articles advising you what hard disks are suitable for a particular motherboard. Always do this check before you

purchase a hard disk. Sometimes a particular type of hard disks won't work on some motherboards.

RAM

RAM or computer memory, is where your application files, and data are temporary stored for quick retrieval. Whenever your computer is switched off, everything that is stored in RAM are removed.

RAM is the quickest type of memory to retrieve storage data and to have the processor execute it. Much quicker than from your hard disk.

Once the information is stored in your RAM, the PC will be able to process it quickly. This is why if you start an application such as Excel on your PC for the second time, it will open up almost instantly. This is because the application files is already stored in the RAM.

RAM also helps your CPU in processing simultaneous tasks. In a nutshell the more RAM you have, the faster your PC will be.

It's recommended that you buy the most amount of RAM you can afford. It makes a huge difference to the speed of your PC.

RAM is relatively cheap compared to the old days, so it won't cost an arm and leg. The average PC should have at least 1GB to 2GB of RAM to run smoothly.

Video Card/Graphics Accelerator Card

This card displays what you see on your monitor. The images you see on the screen are made up of dots called pixels. Your video card determines how many pixels are displayed on your monitor and how fast they are shown.

If you play games on your PC or if you do professional designs with a graphical software, then you need to have a good graphics card so that it can display the images smoothly and quickly.

Video cards also has additional functions such as:

- video capture
- TV tuner adapter (Watch TV on your PC)

- TV Output (Output your screen on the TV)
- FireWire (a fast interface to connect external devices)
- Connect multiple monitors

The more functions your graphic card has and the quicker it is, the more expensive it is. If you're not too fussy on displaying fast, perfect graphics and if you don't need all the additional functions then a simple graphics card is sufficient.

Sound Card/Audio Card

The sound card in your PC determines the quality of the audio produced from your PC. It can also capture sound from a microphone.

If you want better sound quality from your PC, or if you want to do good voice recordings then purchase a good sound card.

However, don't forget that if you expect to hear good sound from your audio card, you also need to buy a decent pair of speakers to output the sound.

Motherboard

Choosing a motherboard is very important. It is the piece of equipment which connects all your PC devices together. If you're buying the components of your PC separately then you should get a good motherboard since it affects the performance of your PC a lot.

The first question you should ask yourself is what type of processor you're using. Your motherboard should support the brand and model of the processor.

Next you need to look at whether your motherboard supports the kind of RAM you have. If the RAM you have is quite old, then the motherboard may not be able to support it.

Your motherboard will have expansion slots and you need a lot of these, just in case you want to expand in the future and have a lot of devices to connect to your PC.

Get a motherboard with as many USB ports as you can. A lot of devices use USB to connect to your PC such as printers, webcams and external hard disks.

Try to get the best motherboard you can afford so that if you want to upgrade in future, your motherboard doesn't have to be changed.

Do You Need To Upgrade Your PC?

One of the most frequently asked questions is "Do I need to upgrade my PC?". The following is a checklist which should enable you to answer that question yourself:

1. How long have you had your PC?

If you've been using your PC for over a year, you should start to notice the computer getting slower.

You'll notice the slowness when you start up your PC, opening the browser and when you use applications from the office suite.

Every time we use our PCs, we store temporary files and make edits to the system which in time, will slow down our PCs. After a year or so, your whole PC seems to be a lot slower than when you first bought it.

So before you start thinking about an upgrade or getting a new PC, save all the data on your PC and reinstall the whole computer operating system. If it is still slow after installing all the programs you need, then make the decision to buy a new computer or add more RAM.

2. Have you checked for viruses?

Sometimes, your PC may be slow because it is infected by a virus. You need to scan your computer with your antivirus software to see there are any malicious viruses. Removing these viruses will normally improve the speed.

You also need to check if your virus software is running. A lot of the times the PC is slow because your computer is scanning for viruses and it does so by going to each file and folder on your hard disk.

If this is the case, set your antivirus' scheduled scan to a time when you won't be using the computer, but when you will leave it on. For example lunch time.

3. Did problems occur after installing new software?

If you noticed that your PC started to slow down after installing a new application then it maybe because the application is affecting your computer.

Immediately uninstall the application and see if it improves things. Then take a good look at the application's recommended hardware requirements to see if it matches your computer's hardware.

4. Do you want to upgrade your Operating System?

If there is a new operating system and you would like to upgrade to it, check out the hardware requirements and see if it matches with your computer.

For example, when Windows Vista was launched in the year 2007, a lot of PCs couldn't upgrade because it required 1GB of RAM at least. However, a lot of people noticed that to really run Windows Vista, you needed at least 2GB of RAM for a smooth operation.

In this case, you will need to check to see if your motherboard can support more RAM. Read the documentation for your motherboard and see how much RAM it can support.

5. Is your hard disk full?

If you have used up a lot of space on your hard disk, you need to remove some unneeded applications and data such as your photos and videos you have downloaded.

After you have freed up your hard disk space, run the utility Disk Defragmenter.

If you are using Windows XP, this application is at Accessories...System Tools...Disk Defragmenter. This will reorganize the space on your hard disk so that it will process data quicker.

You should have at least 3GB of free hard disk space on your C drive to run your programs smoothly.

6. Any components replaceable?

If you need a better webcam, CD/DVD writer, card reader, sound card etc... then the majority of the times you will only need to upgrade that particular accessory.

The only time you would need to replace your PC is when you need to replace your motherboard because the accessories you want to upgrade isn't supported by the motherboard.

For example:

- you want more RAM but your motherboard will only support an old type of RAM
- you want a new hard disk but it's not support by your old motherboard
- a new type of USB port or device is launched and it requires a new type of motherboard

The rule of thumb is to compare the cost of upgrading your PC to the cost of buying a new PC. If the prices are relatively the same then buy a new PC to save time.

Essential Software To Have On Your PC

Here is a list of essential software which you need to install on your PC. Some of these are critical such as the antivirus software. Make your own judgment as to whether you need them or not.

1. Microsoft Office/Open Office

An office application suite will give you a word processor, spreadsheet and a presentation software. The most famous one is Microsoft Office.

An alternative is OpenOffice which you can download for free at <http://www.openoffice.org/>

OpenOffice's major advantage is that it is FREE and is compatible with most of Microsoft's Office. Unless you are sending and receiving important documents to companies/clients, OpenOffice is good enough for every day tasks.

2. Antivirus Software

As soon as your PC is setup with the basic applications, download the free antivirus software AVG at <http://free.avg.com/>

This free antivirus works very well in protecting your computer from viruses. Although it is free, you'll still get free updates to the program almost daily. Many people have used this antivirus software for a long time without any problems.

3. Download Manager

FlashGet at <http://www.flashget.com> is a download manager which allows you to download programs and data quickly from the internet. You can use it to download several files at once and it also helps you in resuming downloads if your internet connection is broken half way.

Flash Get is free and will save you a lot of time in managing your downloads.

4. Compression Software

The most widely used compression software is WinZip at <http://www.winzip.com> It compresses any files you have to reduce the size.

Normally this utility is used to make the file smaller to be sent over the internet or to consolidate several files and folders into one zip file.

A good alternative to Winzip is WinRar which you can download for free at <http://www.win-rar.com/> It compresses file into .rar extensions but it also supports Winzip files.

I also HIGHLY recommend this free one <http://www.zipgenius.com/>

5. Backup Software

Backing up your PC is one of the most important things you need to do regularly, to prevent yourself from disasters. If your hard disk crashes or is damaged, then you have a good chance of losing your data.

Also, if you try to install your computer from scratch, it will take you a whole day to install all applications and applying the latest updates from the internet.

You can save a lot of time by using backup software so that you can retrieve important data.

FBackup at <http://www.fbackup.com/> is a free backup software which can safely secure your data if disaster happens. It is advised that you set up a schedule to backup your data such as daily, after you finish working.

This software has a user friendly interface and does the backup job effectively. An added benefit is that the software will also backup your 'open files'. These are files which are in use when you are working on your PC. This means that you can make a backup of your PC while you are working on it.

You can use the software to backup your data to an external hard disk or onto DVDs.

6. Mirroring Software

A mirroring software is essential although you'll rarely use it. It makes a mirror image of your entire hard disk so that if you want to reinstall your PC, you can do it quickly by restoring the mirror image.

So after you have installed all the basic software for your PC and are updated with the latest Windows patches, you can create a mirror image of your hard disk and store it onto DVDs.

Whenever you want to reinstall your PC you can do so within an hour or so by using the software.

A good free mirroring software is Macrium Reflect at <http://www.macrium.com/ReflectFree.asp>

Installing And Organizing Your PC

You don't need to take the following steps if you've bought a new PC from a dealer. However, this information is important to know if you want to re-install the PC by yourself.

The first thing you need to do, is go inside the BIOS setup of your computer. You can normally access the BIOS by pressing the function key F2 or F9 on certain computers. Check your motherboard's documentation on how to access the BIOS.

Inside the BIOS, find the option for Boot-Up sequence and choose the CD-Rom as the first device to boot up. This is normally the case when you purchase a computer from a dealer. It means that if you place a CD in the drive, your computer will execute the programs on the CD first, before the hard disk.

Next, put the Windows Operating System CD in the drive to setup your computer. This could be Windows XP or Vista. In one of the screens, you will be asked to partition your hard disks. This means you can now decide how many GBs of hard disk space to assign to the C drive and how many to the D drive.

It's recommended that you assign 20GB for your C drive and the rest to your D drive. 20 GB will be enough to run your operating system and applications which you wish to install.

Make it a rule to always install applications in the C drive and your data in the D drive. This way your hard disk will be organized. You will know not to delete any files in the C Drive which may stop your computer from booting up.

After your operating system is installed, get the disks that came with your computer and other accessories, and install the drivers. For example, drivers for the motherboards, sound card drivers, webcam drivers, printers etc...

Drivers are small applications which allow the devices to work with your computer. A lot of accessories such as sound card, can have their drivers detected and downloaded from the internet. However sometimes the drivers are not correct so it is safer to install drivers that come with the installation disks.

Every time you download an application to use on your PC, store it on the D drive and label it with a folder name that is the same as the application.

So create a folder in your D Drive and label it "Software" and place all your downloaded applications there.

If there's a problem with your application, go the Software folder on your D Drive and just install the application again.

On your D drive, create a folder called Data. You should save all your data in this directory. This includes the spreadsheets, presentation slides, documents, graphics etc...

So if your PC has problems you will know that as long as this folder is restored, none of your data will be lost. You can even start to use a new PC right away by simply restoring this Data folder.

Once you're comfortable that your PC is setup with all the right applications and the folders are nicely structured, you should immediately install an antivirus software to protect it such as AVG at <http://free.avg.com/>

Run a virus scan immediately to make sure that the whole PC setup is in a healthy state. Once that is done, your next step is to install a mirroring software such as Macrium Reflect at <http://www.macrium.com/ReflectFree.asp>

Create an image of your whole PC and store in your D drive and also on DVDs. Label these DVDs and store it in a safe place. You are now practically safe from a computer disaster.

If there is a fire, your computer hard disk is damaged or it's infected by a vicious virus, you can have your whole PC up and running in no time.

Just reinstall your whole PC again using the image files which you have created and you'll be back in business. Even experienced PC users rarely do this imaging with their computers. You on the other hand can work free from stress knowing that whatever happens, you'll be back on your feet within a few hours.

However, restoring the PC image files requires the computer hardware to be the same. So if your hard disk is damaged and you need to buy a replacement, make sure that you buy the same size and model of hard disk.

Troubleshooting Guidelines

Here are the basic troubleshooting guidelines for what to do with regular computer problems.

- **Cannot save a file onto your hard disk**

First check your hard disk to see if it still has space available. Delete some files if possible.

Run a virus scan on your computer and make sure that there are no viruses present.

Reinstall the application you are using and see if it solves the problem.

- **Monitor does not display anything**

Check the obvious -- Monitor's LED light is on, power is plugged in and cable is connected to both the monitor and PC.

When you turn on your PC, check to see if there are any strange beeping noises. If so, there could be a problem with your graphics card. You will need to replace the graphics card in this case.

To see which is the graphics card (VGA card) inside your PC, look at which card the monitor cable is connected to.

- **Keyboard/mouse doesn't work**

If it's a wireless keyboard/mouse, check to see if the batteries need replacing. If it's not a wireless keyboard/mouse, check to see if the cable is plugged in properly.

It may be that the USB port which you plug your keyboard/mouse cable to is faulty. Try another USB port if you have one. If there are no

USB ports available, buy a USB hub which will allow you increase the number of USB ports. Plug your keyboard/mouse cable here.

If the device doesn't work, you will need to replace it.

- **Mouse cursor is hard to control**

This normally happens with a mouse that has no infrared. It's because the inside of the mouse is dirty due to long usage.

Remove the ball from the mouse and clean it. Use a pin and scrape off the dirt from the rollers inside the mouse.

- **Advertisements keep popping up on the screen**

These unwanted advertisements are popping up on your screen because a website has placed spyware or some other annoying code on your PC when you visited or downloaded something from their website.

To remove these popups, download and use a Spyware application such as Lavasoft from <http://www.lavasoft.com/>

This will help you find and remove the code so that you won't see the pop ups again.

- **No internet access**

If you cannot access the internet from a browser, then it could be due to:

1. The website you're visiting is offline. Try visiting another website to see if this is the case.
2. Could be a problem with your internet provider. Ring them immediately and ask if they have a problem.
3. Check to see if the wireless signal on your PC or laptop is weak. You may need to go to a better location

– **A USB device is not working**

If any of your USB devices are not working such as printer, digital camera, web cam etc... then unplug the device from your PC.

Then restart the PC. Plug in the USB device again to see if the computer can automatically detect it. If so, it will ask you to download the driver. If you have the driver on disk, then use it. If not choose the option where Windows will automatically search for the recommended driver.

If this doesn't work then plug the USB device into another USB port to see if the USB port is faulty. If all these fail, then the problem could be with your USB device. Try the device on another computer to confirm.

– **No sound from your PC**

Check to see if the speakers are switched on and plugged in properly. Then go to Control Panel...Sounds and Audio Devices. Check to see if the volume is not muted.

Next go to websites such as YouTube, to see if you can hear any sound. It may be that a particular application you're working with has a problem with sound.

If all the above fails then you need to replace your sound card.

How To Speak To A Technician

When you approach a technician because you need them to replace a motherboard or check what is wrong with your PC, don't give the impression that you're desperate and that they're your only option.

Make sure they know that you're willing to visit other computer repair shops to get a second opinion or for a cheaper quote.

Approach the technician without your PC, and speak to them first. Tell them what the problem is and also what steps you have taken to troubleshoot the problem.

If you're having problems recording sound on your PC, then explain the problem clearly and tell them what you did to troubleshoot it.

This will make technician know that you're not a computer idiot who believes in everything they say.

Some technicians can tell if you know nothing about computers. They will ask you to get a new motherboard or purchase some software. If you give them the impression that you know the basics of troubleshooting, they'll think carefully on how to give you a good answer.

With your PC's inability to record sound, the technician will obviously suggest that the problem is with your sound card. You need to nod your head and agree with the suggestion. This will tell them that it's also what you suspect.

What the technician can do now is to replace your sound card with a new one and give you a quote.

Do you see how difficult it is for the technician to charge you money for installing the sound card? You're going to purchase the sound card from him and he knows that installing the sound card will take just 5 minutes of his time.

What you can do now is ask if you can buy the sound card and have the technician to install it for you, free of charge. Tell them that you can carry the PC to their shop in the next half hour.

The technician can now either agree to your suggestion or offer a low price to do the quick replacement.

If it's a simple task of replacing a sound card, you can also do it yourself. Just open the case of your computer and see which card has speaker cables connected to it. That is your sound card. Try to unscrew the card from your PC and place the new sound card inside. It's really very simple.

However you need to be careful when you touch the inside of your PC because you may have some static electricity which will damage your computer. Although this is rare, it could happen.

To prevent the possibility of short circuiting your PC, switch the PC off and disconnect all power cords and accessories (keyboard/mouse). Then make sure that one of your hand is touching the metal surface of your computer case (make sure it's not painted). This will eliminate the chance of having static electricity.

If you've created an image of your PC, you should rarely need to visit the computer repair shop unless you have problems with hardware.

One of the problems which I do recommend you to pay for is replacing the motherboard. This task is complex and takes a lot of time. It's worth paying someone else to do it.

Summary

If you've read all the way through this manual, you will now have some confidence with working on a PC. If you've created a mirror image of your PC, do regular backups and organize your hard disk well, you should rarely have software problems.

For hardware related problems, this can be self taught and it's not difficult. Just spend some time to open the case of your PC and see the various cards which are inside such as the VGA card, sound card, video capture card etc... Take a look to see what a hard disk, DVD drive and power supply looks like inside the computer and how it is connected to the motherboard.

Once you know how the parts join together, you'll have the confidence to touch and replace things yourself.

A word of caution when you take your PC to a technician. Make sure that your confidential files are removed or backed up somewhere before you give them the PC.

It is known that some technicians will look at your confidential data and make a copy of it themselves and/or distribute it on the internet.

Even if you remove and delete the files from your hard disk, there is still a way to retrieve deleted data by using software such as the following free software programs:

Disk Digger <http://dmitrybrant.com/diskdigger/>

MjM Data Recovery <http://www.mjmdatarecovery.co.uk/>

It's unlikely that the technician will go to the extent of using such software to see what files you've deleted, unless they know you have valuable data which is of benefit to them.

But as a precaution, try to be with the technician when they repair your PC so that they don't have the chance to browse the files on your computer.

You now have enough knowledge to understand the basics of how computers work and how to do basic troubleshooting. The

troubleshooting guidelines in this book should be sufficient enough to deal with 90% of the computer problems an average user has.