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**COMPUTERIZATION
FOR
ATTORNEYS**

**"You think you understand the situation but
what you don't understand is that the
situation just changed. "**

In 1991, for the first time ever, throughout the world companies spent more money on computing and communications gear than the combined monies spent on industrial, mining, farm and construction equipment. In the USA, over the last ten years, homes and offices added more than ten million fax machines, and as at the end of 1994 there were over twenty six million E-mail addresses and over twelve billion messages were left in voice mailboxes. Most significantly, on the manpower side the number of secretaries in the USA declined by more than 520,000 between 1987 and 1994. By the impact of computers, the industrial age has now been replaced by the information and communication age.

To make this relaxed reading lets examine a so called Computer Expert witness. The questioning begins;

Do Attorneys really need to know how to use computers to effectively practice their profession ?

"Do you need to know how to use a telephone ?" Technology evolution projects that by the turn of the century the desk telephone will be a miniature laptop style computer that will handle not only hand held remote voice communication, but faxes, electronic mail, voice messaging and built in local directory information. The attorney who decides to get by without adopting the computer as a tool will soon understand Noah's response when asked to explain the reason for building the Ark ; *"How long can you tread water ?"*

Are computers difficult to learn about?

It's much easier than learning to drive.

Frankly, Attorneys who want to can easily step across the technology awareness and computer literacy threshold. They have to take the same approach as any good Attorney would to preparing a case or the documents for some transaction. First, educate and inform yourself on the subject, then apply the knowledge. That, of course, calls for some time and effort but with computers, like new shoes that tend to pinch at first, one will quickly become quite comfortable after regular use.

Why do computers seem so complicated and difficult to understand ?

The scientists who develop computers and the folks who build and sell them want to keep their jobs and impress their bosses and customers so they create a lot of unnecessary techno-talk like RAM, ROM, CPU, SCSI, ASCII, BITS, BYTES etc. to frighten the unsuspecting world into believing that computers are more complicated than space rockets. This allows them to sell computers for more than they are really worth and cause computer technicians to be much in demand.

What is a computer, really?

Actually, its a moronically simple device that can only recognize one of two positions either; yes or no / on or off. It does this by using a method called binary code, which is basically 1 and 0. Every letter of the alphabet, numerical digit and mathematical formula can be converted to a binary code. That is what makes a computer accurate in solving incredibly difficult mathematical problems

and carrying out complex tasks repeatedly. In fact, you are really the boss because a computer must be told what tasks you want it to perform and how you want it done. Imagine the computer to be a factory. The hardware is the physical factory space and machinery. The operation software is like a team of workers and the application software is like a group of managers. The workers are residents and the managers visit to get a job done. When you start it up both groups get going. They both function in the Memory.

What is hardware?

Centuries ago it was a knight's armour.

Today it's few things like;

- (a) The fancy physical box full of electronics such as the binary code managing device, memory chips, power supply, and the permanent /temporary information storage, -all of which in techno-talk is **the CPU-**
- (b) The screen -also known as **the monitor** - to show the result that you want or don't want to see of the computers activity
- (c) A plastic typewriter looking thing -called sensibly **the keyboard-** on which you type the instructions you intend the computer to follow
- (d) An odd looking grey box properly called **the printer** which accepts paper and sends it out covered with the words or images you want the computer to produce.

What then is SOFTWARE ?

Its actually more like underwear, which you don't see, but it tells the physical hardware what to do and how to do it.

Software is the translator of the bosses instruction.

There is **operation software** one or more type of which always comes built into the computer. It tells the computer how to do the task . The manufacturers call it the "system software" and give it a fancy name like MS-DOS, O/S², UNIX and MacO/S- . Because the operating software is a built in feature of each brand of computer it determines primarily how that computer performs its tasks. The operating software is found in a place called the read only memory, in techno-talk **the ROM**

There is more importantly **application software**, purchased independently, with trade names like WINDOWS, WORD, EXCEL, WORKS. It applies the bosses instructions and tells the computer what tasks are to be performed. Techno-talk calls this type of software an application, perhaps not a bad description as it is like a worker on the job who must receive and interpret directions and try to ensure that the machinery does what is required. The application software is found in a place called the read only memory, in techno-talk **the RAM**

What is the RAM

No longer a billy goat or village Casanova.

The term is actually Random Access Memory. It's techno-talk for the amount of memory capacity that the computer has to use it's own operating software plus the application software to carry out a task. This is like the engine size or horsepower rating of a car. The more there is the better it can do the job. Think of the factory again. The size of the RAM dictates how many managers the computer can accommodate to oversee the task. Too little will cause great frustration and the managers will quit or refuse to do the job properly.

What is a megabyte

What you take out of a Whopper when you're hungry.

Actually it is the measure of information capacity of computers. It is abbreviated MB. Good software is RAM hungry. 4MB of RAM is like a 600cc car , just barely enough. 8MB is like a 1200cc car and so on.

italics, **bold type**, CAPITALS, ~~shadow~~, ~~strikethrough~~ however you want. They make ransom notes a synch by allowing the use of differing styles of letters -

called fonts- even in the same **w o r d**

and can make any two
finger typist produce
seeming professional
secretary results over
and over again with
consummate ease.

DATA BASE- DB

This stores information of varying category like dates, 5.18.96, names; Jones, figures, 48729631 and currency \$250, 000.00 and sorts them easily in whatever order you wish but most important it can link all this data by association and give you full details from a simple request to find it based on a small part of the information stored. Automatic teller machines use huge database programmes e.g punching in 8261 gives result:-

May 18 1996- D. Jones A/C# 48729631 , balance \$250, 000.00

SPREADSHEETS- SS

This is like a complex calculator which can do intricate mathematical calculations drawing from information of formulas or words or figures.

A/c	Date/days	Sum	Day Rate	Accrual
48729631	5.14.96	\$18,742	1.91%	\$3.57
48729631	5.18.96	\$21,536	1.95%	\$14.28
Total/Avg	4	\$ 20,139	1.86%	\$17.85

Banks also use these to calculate and charge you interest daily on your credit card. The rocket scientist deserve credit for this software.

OPTICAL CHARACTER RECOGNITION.-OCR

This has put the job of copy typist on the endangered species list.

It uses the reading of typed or neatly handwritten text by a peripheral devise called a scanner (somewhat like a a fax machines) to convert the words from the paper into the computer just as if some one had typed it directly into the computer. Once the words are in the three big brothers above i.e. WP, DB & SS can easily use the information to do their own tasks.

VOICE ACTIVATION /RECOGNITION- VA/R

Stenography now endangered by lack of manpower will shortly become extinct because of this software's ability to hear interpret and convert the spoken word into typed text and even to cause the computer to respond to spoken instructions. This software's speed and accuracy is fast approaching that of a first class stenotypist and our Judiciary and other tribunal adjudicators can look forward to the day when testimony and submissions will appear on computers screens in the hearing rooms within milliseconds of the words being uttered.

VIRTUAL REALITY- VR

This is the Italian sports car of software. It converts real or artificial scenes into graphic three dimensional images which the computer can project into a viewing mask or unto a screen. Interpol and the F.B.I. now use it to create visual reenactment of crimes which can be progressively altered by the information yielded by investigation and physical evidence and replayed over and over. It was developed to assist witnesses of terrorists bombings in recalling what they saw. When it becomes commercially available in a few years both the criminal and civil bar will find it a valuable tool to test the reality and consistency of the evidence in support of their case. In the recent People vs O.J. Simpson trial the defence used it as a tool to test the action sequence and time intervals of their clients alibi.

What then is a hard drive

Its the way a minibus behaves when you try to pass it.

In a computer it is a passive storage device which is like a huge electronic room full of neatly arranged filling cabinets. It keeps the information on everything the computer has to use to work plus all the information you put into it and ask it to keep for later use. Its storage size is also measured in megabytes

And a peripheral device ?

Didn't you think it was a sex aid?.

It's a smaller piece of hardware which attaches to the computer to facilitate the giving of specific instructions or the doing of specific tasks. Techno-talk gives them weird names like MOUSE and MODEM.

Is a computer always accurate ?

Do all birds fly ?.

Computers can be wrong but unfortunately this is only seen in what it puts out on the screen or through the printer. The error can result from conflict between the operating software and the application software which may cause the computer to malfunction. Techno-talk calls this conflict a BUG which may cause a CRASH. Attorneys can recognize this as a worker /manager dispute that leads to a strike.

When the bug is deliberately made part of the application software techno-talk calls it a VIRUS. That's like the unionized worker who uses Patex to lubricate the garment factory thread spool.

MOTION TO CURB THE WITNESS IRREVERENT RHETORIC UPHELD

The answers hereafter will be more serious

Please explain what type of computer does what type of task?

Computer manufacturers created this myth of certain computers for certain tasks in order to sell their computers, but tails do not wag dogs.

It is the application software that really determines what specific task a computer will perform.

Bill Gates of Microsoft recognized the myth and has now exploded it by becoming the largest manufacturer of software to the extent that all major computer manufacturers now design their operating software to read Microsoft's off the shelf application software, like Window's .

Some computers have hardware and operating software that make it easier to use certain types of application software designed for specific tasks.

Macintosh computers are regarded as better suited to apply software for audio visual, desktop publishing, graphic imaging and file managing tasks.

IBM compatible computers, commonly called PC's are regarded as better suited to apply software for basic word processing, document processing, data processing and scientific analysis.

The true answer to the question is that you must first decide what type of tasks you wish to perform with a computer and identify the type of software that tells it how to do that task, then, you find the computer which will best run that software.

So then please explain what type of application software does what type of task ?

They fall into categories like cars , those most relevant to the legal profession are ;

WORD PROCESSING -WP

This converts keyboard typing into even bordered, neatly spaced, numbered page, perfectly spelt text, with features like underlining,

COMMUNICATIONS

The explosion of the information age is fuelled by this software which allows computers to send and receive faxes, send electronic mail messages (E.mail) and connect to the internet. It allows voice, real life images, documents and all sorts of computer generated data to be converted (digitized by binary code) transmitted with great accuracy by wire or radio frequency, received, reconverted to be heard, seen or processed all in a few seconds. In its latest evolution it now enables control of physical equipment from a great distance. Our profession will be forced to communicate with colleagues and clients, do research and produce its work using communication software on computers because the loss of time and cost of doing otherwise will be prohibitive. Just think of the time spent in traffic and you will understand.

What is user friendly software?

For fashion designers it's a negligee.

The easier it is to use the application software the more "friendly" it is. The standard for user friendly software in now the Graphic User Interface-GUI, that's techno-talk for the little symbols and boxes that you see on the screen of a Macintosh computer or IBM compatible PC using Windows 95. The computer shows small screens with little symbols and messages that ask what you wish to do and tell you what next to do. It should allow you to find information and directions to move through the task without first having to reach for the instruction manual. When a mouse device is used you simply point at the symbol.

What software and hardware combinations can the profession use to do it's usual tasks.

Let's look at it in terms of what Attorneys need.

Word Processing

All Attorneys produce documents and therefore word processing is a must. The most user friendly and consequently most popular word processing software is Microsoft's Word. It has evolved past Word Perfect into an easy to learn, easy to manipulate programme.

A good word processing application should cover these crucial areas of capability:-

- (1) Easy adaptability for any type of document preparation from simple to highly complex tasks
- (2) Be able to incorporate drawings and photos with ease
- (3) Have features to do small volume printing of newsletters, programmes, song sheets, certificates -techno-talk calls this desktop publishing.
- (4) The ability to read or convert documents written by other word processing software without losing the layout of the document.
- (5) It should work easily with other support software like OCR scanning and fax software to allow conversion from electronic document to physical and vice versa
- (6) It should not need a lot of RAM memory to do the job
- (7) It should work with just about any type of printer and do shrinking, enlarging and rotation of the printed document

Databases

The filing cabinets in an Attorneys office are a database. The Law libraries which Attorneys use are physical databases. Every Attorney can profit from keeping easily retrievable information about cases, clients, witnesses, dates, times and money or accounting of time and money. The highly evolved database programmes like DBase Plus will store this information and find it faster than you can remember your own birthday. Inter-relational databases are the most effective for storing and recovering information of varied groupings like names,

places dates and times. The essential features Attorneys require in a database programme are:-

- (1) Using simple word or phrases to carry out a search task
- (2) Automatic arranging of information in alphabetical or numerical or date order
- (3) Automatic linking of similar facts by generic association
- (4) Availability of arithmetic calculation in any numerical data group
- (5) Automatic calendar and clock features.

Spreadsheets

Any Attorney needing to know how the changing of one amount can affect another will find spreadsheets very useful. The amount may be money, time, speed, distance, area. The vital features Attorneys can benefit from in a spreadsheet programme are:-

- (1) Cells or pockets which are easily adjustable in size
- (2) Cells or pockets which are able to accept any type of information
- (3) A wide variety of built in formulas like per centage rate calculation, metric conversion, area calculation, year to date or elapsed time calculations

Optical Character Recognition

Because most Attorneys work to meet deadlines they need the electronic copy typist that wont be late for work or take a day off when it rains. In the past five years OCR has fallen sharply in cost and increased dramatically in accuracy. Caere Word Scan and Xerox Textbridge are outstanding in this category. Key features are:-

- (1) It must be simple to set up and get going, not more than five steps
- (2) It must do automatic spell checking
- (3) The electronic document should be accessible by standard word processing programmes
- (4) It should be able to scan from the data on a disc.
- (5) It should not need a lot of RAM memory to do the job

Voice Activation/Recognition

This is now the perfect dictation secretary and the answer to writing or typing to keep information. It actually avoids the need to type on a keyboard in order to get instructions and words or figures onto computers

To be truly effective it ought to carry these features:-

- (1) Simple individual voice recognition training
- (2) Ability to accommodate more than one voice pattern
- (3) It must produce text that is accessible by standard word processing programmes
- (4) It should not need a huge amount of RAM memory to do the job
- (5) It should not need an ultra high speed computer to do the job

Communications

Imagine an Attorney without a voice, that is what a computer without some communication feature will be. In the same way that Guttenberg's printing press transformed the world by launching the industrial age so now has communication software launched the information age. It makes your computer a powerful tool when it allows you;

- (a) to send and receive paperless faxes,
- (b) to send and receive voice messages isolated to an individual
- (c) to have remote access to and control of other computers
- (d) most importantly you can use the internet World Wide Web - called the information super highway in techno-talk,- to visit places like the U.S. Supreme Court Library-Washington D.C., the Current Law Information Centre - Birmingham, England and University of Montreal Commonwealth Law Library -Montreal, Canada-to view and extract vital information without leaving your chair.

Good communications software for Attorneys should have some if not all of the following features:-

- (1) It must be simple to get going, not more than five steps
- (2) Automatic Fax cover pages and directory of destinations and sources
- (3) Automatic transmission delay and repeat if lines are busy
- (4) Caller identification
- (5) Transmission time scheduling
- (6) Password access protection for voice or E.mail mailboxes
- (7) Video conferencing support

How do you choose the type of hardware in relation to the software?

This is where it becomes complex, like choosing what car to own. The tendency is to do what is most appealing and ignore rational analysis. If you ignore the following Rules of Selection approach you may end up having a computer that is more like having a piano which you can't play. It will look impressive but nothing more unless you hire someone to play it. Too many ex-piano and ex-car salesmen got in on the computer boom in the eighties. They persuaded people who really didn't know what they wanted to do with a computer that they needed to have one, and the bigger faster and more expensive; the better. To avoid predicament this follow these three basic steps:

THE PRIMARY RULES OF SELECTION ARE;

- (A) FIRST DECIDE WHAT TASKS YOU NEED TO DO AND MAY WANT TO DO WITH A COMPUTER,
- (B) FIND THE SOFTWARE THAT CAN MOST EASILY TAKE YOUR INSTRUCTIONS AND DO THE REQUIRED TASK,S
- (C) THEN FIND THE HARDWARE (COMPUTER AND THE PERIPHERAL DEVICES) THAT THE CHOSEN SOFTWARE DEMANDS TO DO THE TASK

Do not hire someone who has no understanding of what Attorneys do to help you select.

Please give us some examples of how the selection process works?

Here are some examples relevant to the Legal Profession;

Needs

A single practitioner usually needs Wordprocessing, Database and Fax-modem communications software to make the cost of computerizing worthwhile by doing more work in less time. Later, the need to scan documents and convert it to electronic text may prove advantageous. A further benefit can be gained by a voice messaging and E. mail service to keep in touch with clients and colleagues while out of office without the expense of frequent cellular phone contact. This answers (A)

Software

A combined software package like Microsoft Office or Lotus Notes which can command all three, Wordprocessing, Database and Fax-modem, functions may be the most suitable -techno-talk calls this integrated software. One of the advantages of integrated software is that more than one function can be performed simultaneously-techno-talk calls this multitasking. Another advantage is that the keyboard instructions are usually the same for repetitive tasks like copying or printing. The moving of information from one programme activity to another, say from a data base record to a word processing document, is usually quite easy.

To scan documents and convert, Xerox's Textbridge OCR software can later be purchased to do this job. Microsoft makes a range of voice messaging and E. Mail software from the simple to the sophisticated which will attach almost

seamlessly to the other software in the family and use the same basic keyboard instructions. The attorney may not have the time or the budget to do a training course in keyboard instruction and Windows 95 or the Mac O/S graphic prompting and guidance software may prove cost effective. If there is need to get a lot of work on paper and the secretary is a poor typist the Voice recognition software will be a boon. **This answers (B)**

Hardware

The hardware required to run all the above software should have minimum specifications that satisfy the demands of the software. The active memory capacity -i.e. the RAM- of the computer should be at least one and a half times the total of the space required by the operating software, e.g Windows 95, plus all the application software, i.e the Wordprocessing, Database, Fax-modem, scanning, voice messaging and E. Mail functions.

The computers processor must have 32 bit processing capability (never mind what it means) to enable it to carry out more than one task at the same time.

The storage capacity of the hard drive should be as large as is available but not less than three times the size of the space required to store all the operating and application software which the computer will use.

A mouse device is required to use Mac O/S or Windows 95.

The computer needs a modem to do any communication, the faster the modem the better. The 28,800 modem goes twice as fast as the 14,400 modem.

Voice recognition is RAM memory hungry and the computer must have adequate capacity.

To do scanning a scanner would have to be added as a peripheral device.

Scanning software is also RAM memory hungry, so again the computer must have additional RAM capacity.

The printer output should be from a laser printer or dot matrix printer. An ink jet printer is unsuitable because the ink is water soluble.

What would the firm require?

A firm's needs are all of the above for the single practitioner plus the following;

Local Area Networking a process which connects the computers to each other and allows them to exchange information. Networking allows reviewing of draft documents without having to first print them plus internal E.Mail and fax transmission from diverse points in the office. The hardware needed is a Controller device and wiring from it to all the computers or devices on the system

File serving, uses the large hard drive to back up, store, retrieve and distribute information like forms and precedents, data on clients and matters. The hardware is one or more large capacity hard drives which have access rates measured in milliseconds. The lower the figure the faster the access rate.

Dedicated accounting software, will manage large and complex accounting demands of keeping clients accounts, office accounts, statutory accounts and do fee earning accounting. Software like M.Y.O.B, designed for businesses is very effective.

An Electronic Diary function can be used to record Court fixtures, send reminders of deadlines and appointments, streamline follow ups and co-ordinate work flow to meet deadlines.

Centralized printing uses a large fast laser printer to handle the the printing needs of the firm or departments of the firm.

What is back up ?

Getting out of trouble quickly.

Computers are modeled after the human mind which has the ability to accurately store and retrieve information from age 3. A bump on the head will cause you to forget some of that information. As a mechanical device the computer can lose track of information it has stored- techno talk calls this data loss. To overcome that risk we store an identical copy of the computers information on some other device like a tape or cartridge or disc which should be kept safely elsewhere in case it is needed to restore the information to the computer. The back up information must be kept immediately current with the active information so backing up data is an ongoing process.

What other consideration should guide the choosing of software and hardware?

A cheap computer is like a cheap car, it won't be reliable for long and will quickly fall apart.

The secondary factors which influence the final decision -at (b) & (c)- on the type of hardware are ;

The cost of the components,

The processing speed of the computer,

The active and passive storage capacity,

Case design and convenience

The hardware features which come as standard fittings

Desktop space requirements,

Power supply needs,

Capability to upgrade and improve it over time.

The ease or difficulty of adding peripheral devices

The convenience to back up information

The speed of peripheral devices like modems, printers, and scanners.

What are the cost savings or increases in efficiency that may benefit Attorneys through using computers?

Computers allow you to manage your productive time better and to work smarter rather than harder to be more productive. They can reduce stress by taking care of things electronically which other wise you would have to do manually, like editing a document, producing duplicates of large documents, sending a fax, or just remembering to do something very important, like filing a document before the time expires. It will reduce your need for staff to do certain tasks and the headaches of managing more personnel.

Properly set up and effectively used they will allow Attorneys time to have a normal life like going home sooner or catching a movie at the cinema.

Internet research is now the most significant area or development in the competency and resource base of Attorneys. Knowledge is in fact power in an adversarial system. If our Attorneys and Judiciary did nothing more with a computer than simply connect to and extract appropriate information from the Internet; e.g. at the Law Technology Centre in the U.K. , just by keeping abreast of current legal issues and developments in the Common Law the standard and quality of the legal professions ability to represent clients and administer justice would increase dramatically.

The the most cost effective use of computers in a firm it is Active Networking which connects all the computers to each other, not just to a file server or printer It significantly reduces the amount of paper and time required to read and produce documents. It enables the persons who best know what actions to take be they the Attorney, paralegal, secretary or clerk to have access to vital information quickly. Incoming correspondence can be scanned and sent over the network to the person who needs to see it and act on it.

E.mail allows you to communicate with the outside world, especially overseas at a fraction of the cost of a phone call. This is a significant management tool as well in that the communication is recorded in full detail and can be traced through to the accounting process to note the disbursement cost.

Paperless fax which you send directly from your computer and receive and view on your computer saves again on fax paper cost and the time to physically handle the paper fax. It provides advantages of not having cover sheets cluttering up the physical files and being able to see the fax again without having to locate the physical file.

On demand printing of letter heads and other stationery significantly reduces paper cost, waste, and demand for storage space. It helps to smooth out cash flow and avoid delays caused by ordering from in bulk printing houses. Information appearing on the stationery, like telephone numbers, names and addresses can be quickly modified. Supply of standard paper sizes and plain envelopes reduces your stationery inventory management.

What changes are computers likely to bring to the Legal profession

Filing documents and Home office Lap tops in Court

The rate of technological advance in computerization is great because the demand for it is great. Computer assisted information management can level the playing field in the Legal profession.

I anticipate that through the need to computerize we will eventually see the following changes in the way the Legal profession goes about it's business

In Jamaica , Home Office practices will expand rapidly, where the Attorney on their own or connected to a firm will stay at home and do most of their research, telephone contact with clients and colleagues and document preparation using a computer with appropriate peripheral devices.

Already at our firm we have established a home office capability where an Attorney who is quarantined by illness or family circumstances can, by using a computer at home, have full electronic access to all the files on the server and any other computer on the office network. Incoming documents and correspondence are faxed to them through their computer and calls from clients are forwarded or conferenced to them Private Net radio contact allows that attorney to communicate with all the staff both at the Kingston and Mandeville offices including the clerk and delivery bearer out on the road.

As we saw in the O.J. Simpson case the Judge will look at Court documents, transcripts of testimony and case authorities using a computer

Judges Bundles and trial documents will have to be filed in electronic form simply because of the dictates of space and volume of ordinary paper.

Oral evidence, Arguments and submissions are going to be recorded electronically by voice and text and copies made available to the parties and their attorneys.

By virtue of Compact Discs which make information involatile Court records are going to become electronic documents for archiving and inspection purposes where you will visit the Court registry and search for information using computer terminals rather than waiting on clerks to bring the physical file. This process has already started in some jurisdictions in the United States and Europe. Lap top computers are already turning up in Court filled with the case details, research material and electronic personal assistant software to assist the user.

The next step is that Attorneys will stay in their offices and use computers to gain access to view Court, Titles Office, Companies Office and other departments public record files.

Physically large law firms are going to shrink in size of infrastructure but grow in size of number of attorneys as the need to have physical office space to do work and see clients will become more redundant. Teleconferencing or video conferencing has become relatively cheap technology and is the next huge wave in the sea of communication sea that is storming around us.

Attorneys will find research material more accessible using the Internet and entire series of law reports and journals will be purchased in a handful of Compact Discs.

"Understand that the situation just changed"

Alton E. Morgan

May 16 1996