COMPUTER JAGAT BBS — OFF LINE

Some excerpts of the interesting and useful messages/questions and answers from ***Computer Jagat BBS*** *for the readers who are not still using on-line.*

From : SHAKIL UDDIN
To : SYSOP
Subject : HELP!!
Hello!

Can you explain the difference between spooling and Buffering?

From : SYSOP
To : SHAKIL UDDIN
Subject : Buffering and Spooling.

Thank you for this interesting question. The terms Buffering and spooling are explained below.

Buffering :

Buffering is a method of overlapping the I/O of a job with it's own computation. In practice, buffering seldom keeps both the CPU and it's I/O devices busy all the time, since either the CPU or the input device will finish first. If the CPU finishes first, it must wait; it cannot proceed until the next record is read and is in memory ready to be processed. Notice, however, that the CPU may not have to sit idle for long; in the worst case, it is idle no longer than it would be without buffering. If the input device finishes first, then either it must wait or it may proceed with reading the next record. The buffers that hold records that have been read but not yet processed (or processed but not yet output) are often made large enough to hold several records (for example a 255-character buffer, or a 10 -card buffer). Thus, an input device can read several records ahead of the CPU. If the input device is consistently faster than the CPU, however, the buffer will eventually become full and the input device will have to wait.

Buffering is generally an operating-system function. The resident monitor or the device drivers include system I/O buffers for each I/O device. Subroutine calls to the device driver by applications programs (I/O requests) normally cause only a transfer to or from a system buffer. The actual I/O operation either has already been done or will be done later, as soon as the device is available.

How does buffering affect performance ? Buffering mainly helps to smooth over variations in the time it takes to process a record. If the average speeds (in records per second) of the CPU and the I/O devices are the same, then buffering allows the CPU to get slightly ahead of or behind the I/O devices, with both still processing everything at full speed.

Spooling

Spooling is an acronym for simultaneous peripheral operation on-line. The advantage of spooling over buffering is that spooling overlaps the I/O of one job with the computation of other jobs. Even in a simple system, the spooler may be reading the input of one job while printing the output of a different job. During this time still another job (or jobs) may be executed, reading their "cards" from disk and "printing" their output lines on to the disk. Buffering can overlap the I/O of a job with only it's *own* computation and I/O; spooling can overlap the I/O and computation of many jobs.

Spooling has a direct beneficial effect on the performance of the system. For the cost of some disk space and a few tables, the CPU can overlap the computation of one job with the I/O devices working at much higher rates, particularly if there is a mix of CPU-bound and I/O-bound jobs to be run.

In addition, spooling provides a very important data structure: a *job pool*. Spooling will generally result in several jobs that have already been read waiting on disk, ready to run. A pool of jobs on disk allows the operating system to select which job to run next, in order to increase CPU utilization. when jobs come in directly on cards or even on magnetic tape, it is not possible to skip around and to run jobs in a different order. Jobs must be run sequentially, on a first-come, first-served basis. However, when several jobs are on a direct-access device, such as a disk, *job scheduling* becomes possible.

From : TAOUFIQ RAHMAN
To : SYSOP

Dear Sysop,

Can you advise me about some enquires. I am really confused how to take care and avoid risk while using PC. Let me point out the questions:

(1) How much at risk of repetitive strain injury am I, if I spend too much time at the computer ?

(2) What about typing and playing with the mouse ? I mean which is better?

From : ECHO AZHAR
To : TAOWFIQ RAHMAN

Dear Mr. Rahman,

To answer your first question, you can get muscle soreness, tired eyes and repetitive strain injuries from using PC's speaking about eye strain. You should have adequate, glare-free lighting in the room. Computing in the dark is not a good idea. Lets talk about muscle strain. Use a good, adjustable office chair and set it so that you are sitting with your thighs horizontal and your feet flat on the floor. Make sure that the chair has lumbar support far your lower back and have the keyboard in a position so that your shoulders are relaxed and your upper arm and forearm form a 90° angle to the desk. Your wrist and hand should be in a straight line and a wrist support, which sits in front of the keyboard is a good idea.

Now let me move on to your second question. Use a light touch on the keyboard and avoid the mouse when you can. A keyboard combination for closing a window, for example is much faster and posses less strain than a mouse. The most ergoromically sensible form of pointing device is a trackball. Joysticks and games control pads can put an awful lot of strain on your hand, so don't play them aggressively for long periods.

And above all the best advice is that any PC user should take frequent breaks from the screen. A couple of minutes after every half hour to take rest or to have a cup of tea is fine.

Thanks.
Echo Azhar,
Department of ECS.
Jahangirnagar University.

From : JUNAED SATTAR
To : ALL
Subject : Programming.

Hi everyone,

I would be really glad if you'ld kindly help me with these.

1. Is there any other sources of information on sound Blaster programming except "The Sound, Blaster Book?"
2. How can I access video memory directly (bypassing BIOS) in high resolution VGA mode (640 X 480 X 256 colors and higher) ?
3. How to program a TSR that can be unload from memory ? (Problem : Sustaining hanging (!) of the machine).

From : SHAFQAT AHMED
To : JUNAED SATTAR

(1) There are other Books than the sound blaster handbook. But they are not available in Dhaka. You may find a row of them in the Newmarket. But you can often find sound blaster programmers handbook in Newmarket.

(2) To my knowledge there is no known software to access the video memory. You can use C or pascal or assembly to do such but you cannot bypass the BIOS. When you run your programs code in pascal or c++ or assembly to access and change video memory values be sure that the protected mode is off (if your operating system is windows 95). Just remembered turn BIOS video shadow and then try.

(3) Some TSR programs do not have an option to unload but most to, use a swith such as ...../? or .....-?. this will let you know the options. There you will find a way to unload from memory. If it is a windows '95 TSR program then press crtl + alt + del. you'd see a dialogue box that contains the names of shells and TSR programs. Select your program and then select end TSR. Another dialogue box will appear and confirm your decision. If you want to remove them from AUTOEXEC.BAT and CONFIG.SYS then use DOS editor and delete the lines or write "ROM" before the line. Then save the file.

I hope this will solve your problem.
Thank you.
Shafqat Ahmed
IBA, Dhaka University.