Fresh Chips-Intel® Core™ i7 Processor

Fresh Chips

Intel® have recently launched its Core™ i7 Processor. As a result of changes in the architecture of the processor chip, the benefits are faster, intelligent multi-task applications. Within School Technology departments, obvious benefits will be when working with your favourite CAD/CAM/CAE packages, particularly when rendering or photo-editing.

Changes in the architecture of the i7 chip - considered to be some of the biggest changes in ten years, has enabled a more direct approach to memory access as indicated in the Table 1 together with a three channel memory controller access to the RAM (Random Access Memory).

This technology is not new, for example Pentium 4 processors had a 'Hyper-Threading' facility. The i7 processor has four independent CPU (Central Processing Unit) cores. HyperThreading makes use of a further four 'virtual' cores, in essence, the processor has eight CPU cores. Performance benefits of HyperThreading will vary depending on hardware and software used.

Intel extols the benefits thus - "With Intel Hyper-Threading Technology, highly threaded applications can get more work done in parallel, completing tasks sooner. With more threads available to the operating system, multitasking becomes even easier. This amazing processor can handle multiple applications working simultaneously, allowing you to do more with less wait time."

Turbo Mode / Overclocking

With four physical cores on the i7 chip, the i7 has the ability to 'switch off' any un-used core, and is able to channel additional power to the cores in use, this is called 'overclocking' or turbo mode.

References

www.intel.com/products/processor/corei7/index.htm
www.intel.com/products/desktop/processors

Many CAD applications are 'single threaded' and would benefit from overclocking. The speed of a single core can be boosted by 400 MHz in the turbo mode.

According to Intel the i7 represents a large leap forward in processing power and speed. Of course, processor prices are always initially high, but no doubt we'll look forward to purchasing our first i7 processor based system in the near future.

Name:	Core i7 processor
Launched:	End of 2008
Available:	Early 2009
Processor Provides:	Faster memory Hyper Threading Turbo mode / overclocking
New Architecture:	Allows the processor direct data access from the system RAM. The new memory controller has three channels which connect to the RAM, for this reason memory will likely be in groups of three, i.e. 3GB, 6GB, 12GB
Core Speeds:	2.93 GHz and 2.66 GHz
Processing Threads:	8 processing threads with Intel hyperThreading technology.

Table 1 - i7 Processor Details

CADtutor – a useful website for AutoCAD users – www.cadtutor.co.uk
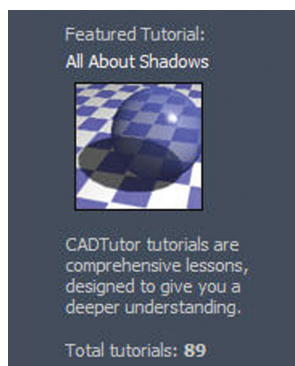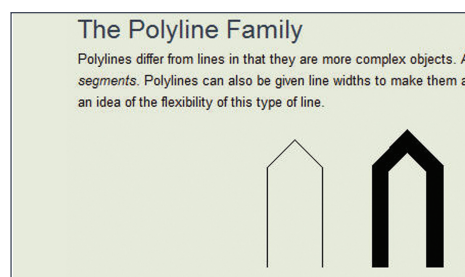

Figure 1 - Typical Tutorial.

Figure 2 - Autocad Command Tutorial where techniques are graded from the basics, beyond basics, to modelling and rendering.
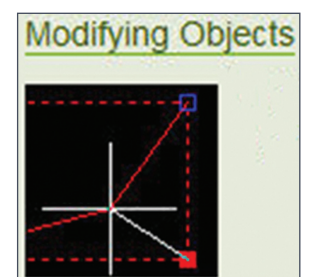

Figure 3 - This tutorial runs through all the modify tools, demonstrating practical examples in each case.

Claiming to be the 'Best free help for AutoCAD on the web' this site provides, for free, a variety (over 80) of graded tutorials, downloads, 3ds Max, Photoshop, a forum and other software.The CAD Tutor Download area provides free AutoCAD drawing files together with a selection of photo images. An AutoCAD 'FAQ' section together with a 'tip of the day' further enhances this useful website which provides easy access to a range of useful technology department resource material.