UNESCO supported:

Hardware System

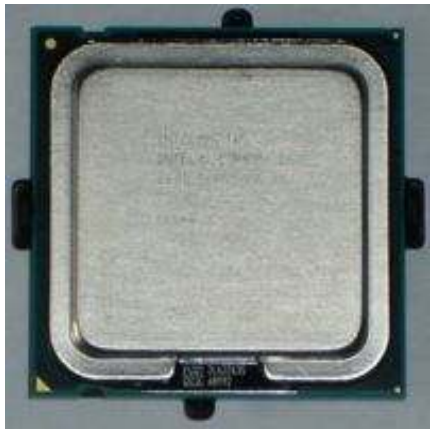
for Design and development of software related to the Program for Flexible Learning in the Faculty of Education

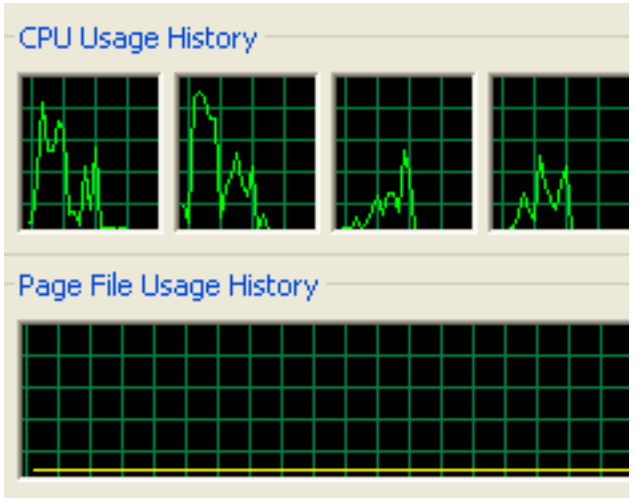
Purpose of Design and buliding the New Hardware system

- Having an onboard Quad-core processor will drastically improve the rendering process and the Quality of the Final product.
- Video and Audio editing can be processed faster hence reducing the time frame of the process and obtaining superior quality.

Quad-Core Technology

- Quad-core is the latest derivative of Intel's microprocessor architecture in the Core 2 brand.
- Core architecture differs from its preceding Pentium series because it uses a range of lower clock speeds and has an improved processor usage of clock cycles and power hence resulting to be highly efficient .
- Core series branches into several models amongst which are Allendale, Kentsfield, Yorkfield, Wolfdale and others for specialised usage.

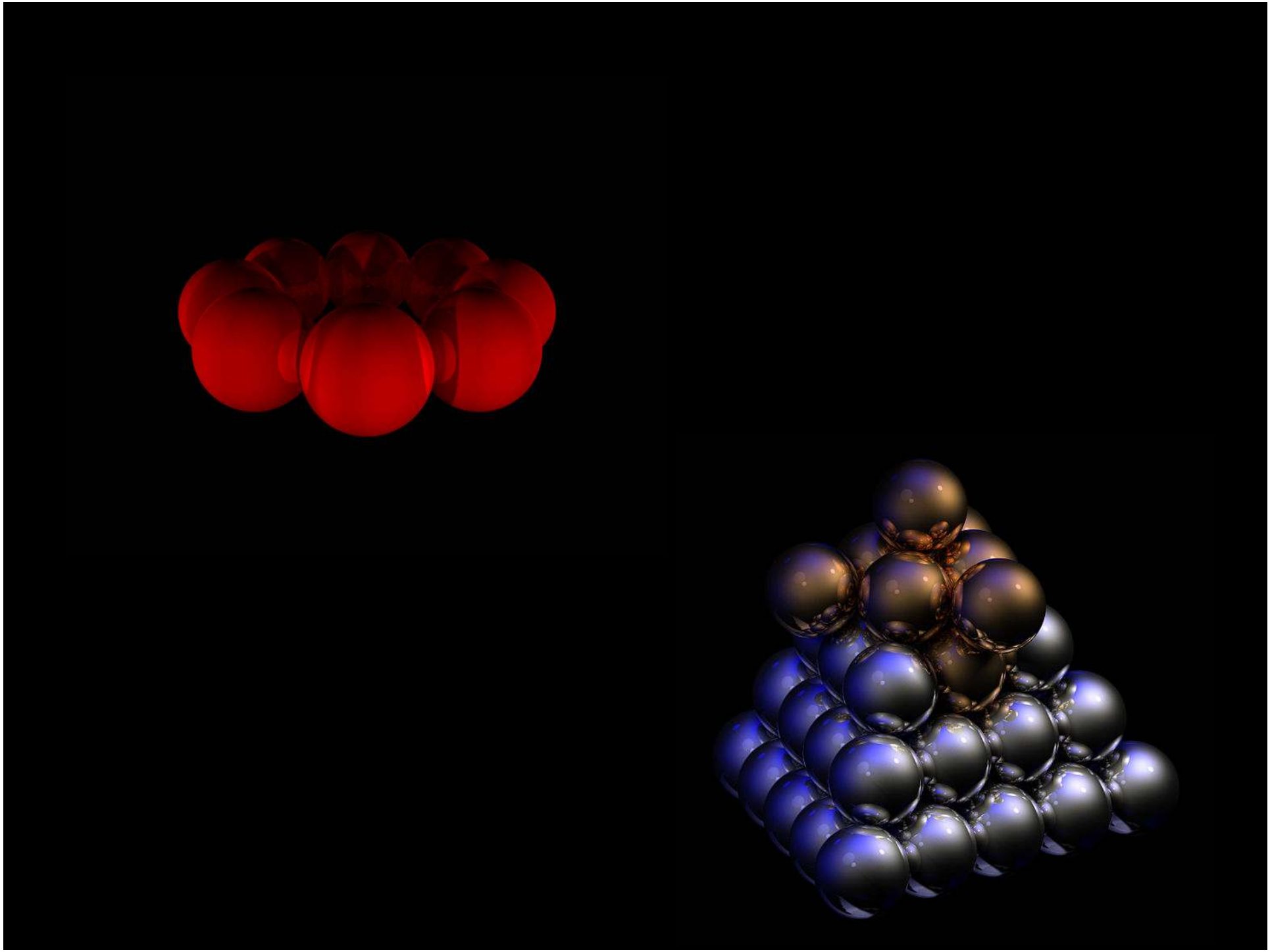




What is Rendering?

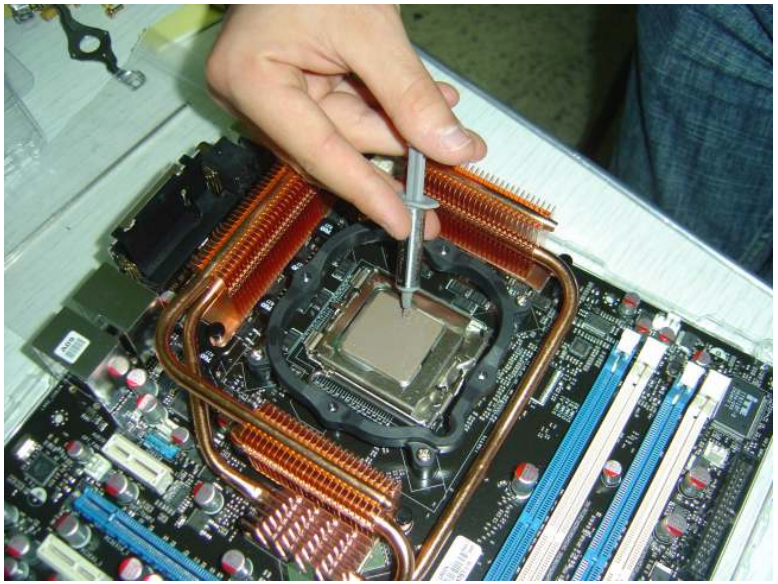
- Rendering is the generation of high quality images.
- This process requires high performance computers and the use of strictly defined languages and data structures.
- Rendering techniques comprise the use of textures, light physics, visual perception, mathematics and software development.
- Rendered images and videos are highly used in simulations, video games, high end software and special movie effects.
- Rendering programs include Vue 7, CAD and Maya studios amongst others.

Rendered pictures showing the use of different textures, physics and visual perception embedded in 3-D rendered Art.



Rendered Landscape Picture Winner of Vue 3D Enviroment Competition 2007-
White Ducks Under The Bridge

Building the New Hardware System



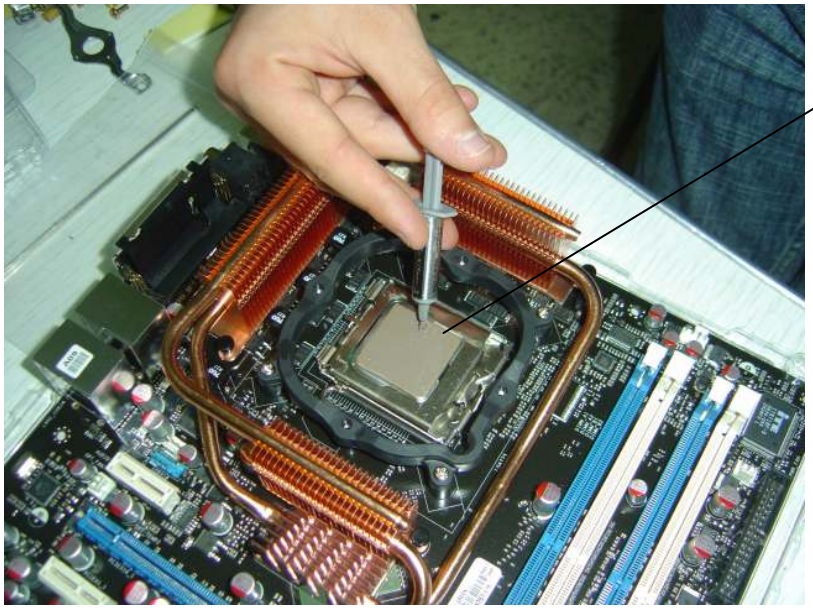
List of Components in order of Installation

1. The CPU was clipped into the cpu cage built on the motherboard.
2. The CPU was covered with a thin layer of Artic silver thermal compound and the Zalmann heat sink and cooler mounted onto mother board.
3. Mother board with attached components was then mounted onto spacing brackets on the side panel of the Xclio case.
4. Power supply unit was installed onto the case railing and the cooling fans were installed in the back and front case panel to improve the heat flow creating currents across the case
5. XFX GEFORCE 8800 GTS Video card, sound card, network card and Corsair 2GB RAM were then installed into the mother board.
6. DVD writer drive, light scribe and Maxtor hard disk were then installed in the front panel of the case and all components wired together.

Asus Mother board

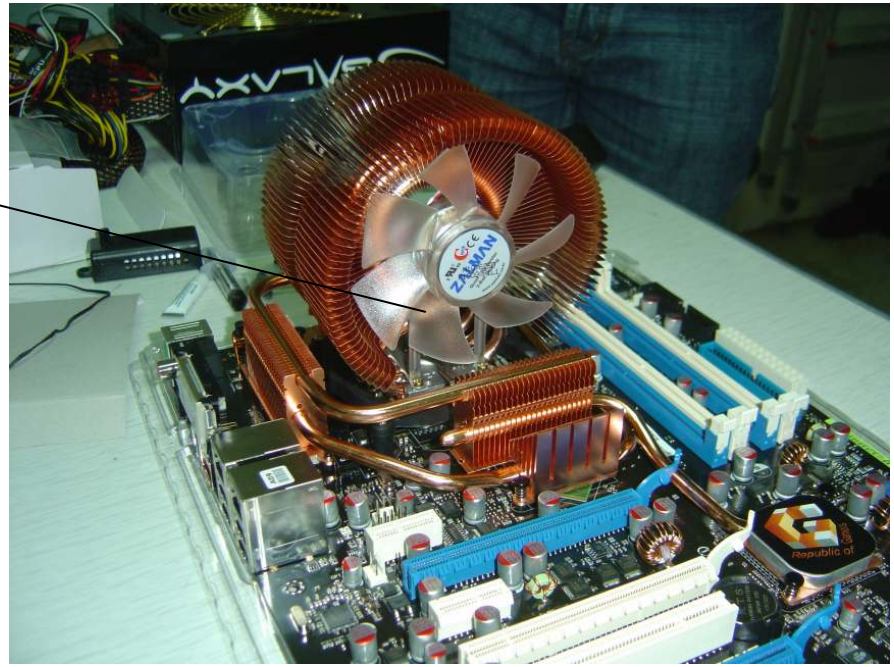
Kentsfield Quad-core CPU

CPU mounted on Asus motherboard

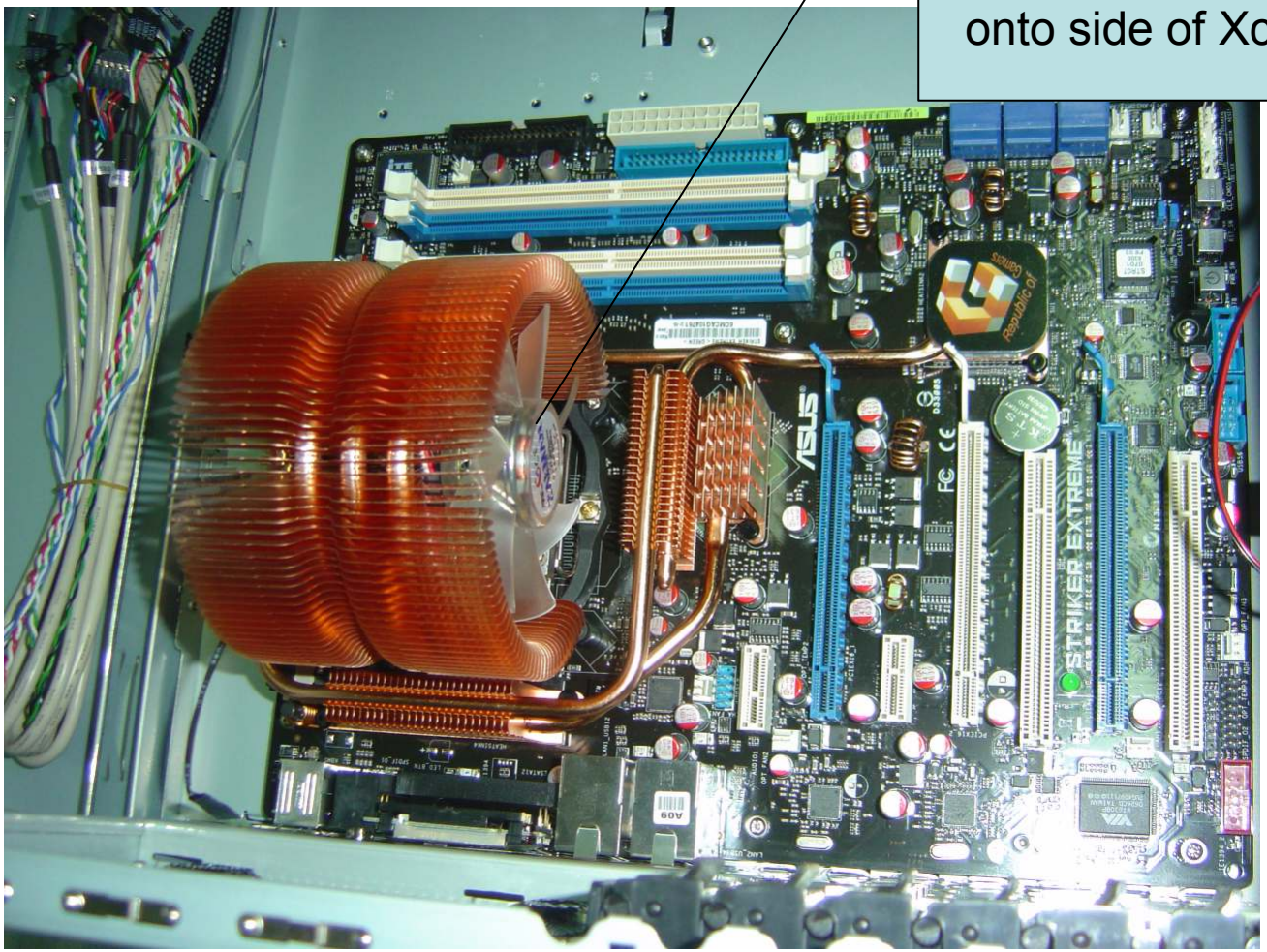


CPU was covered with Artic Silver thermal compund to increase the thermal conductivity between it and the Zalmann heat sink

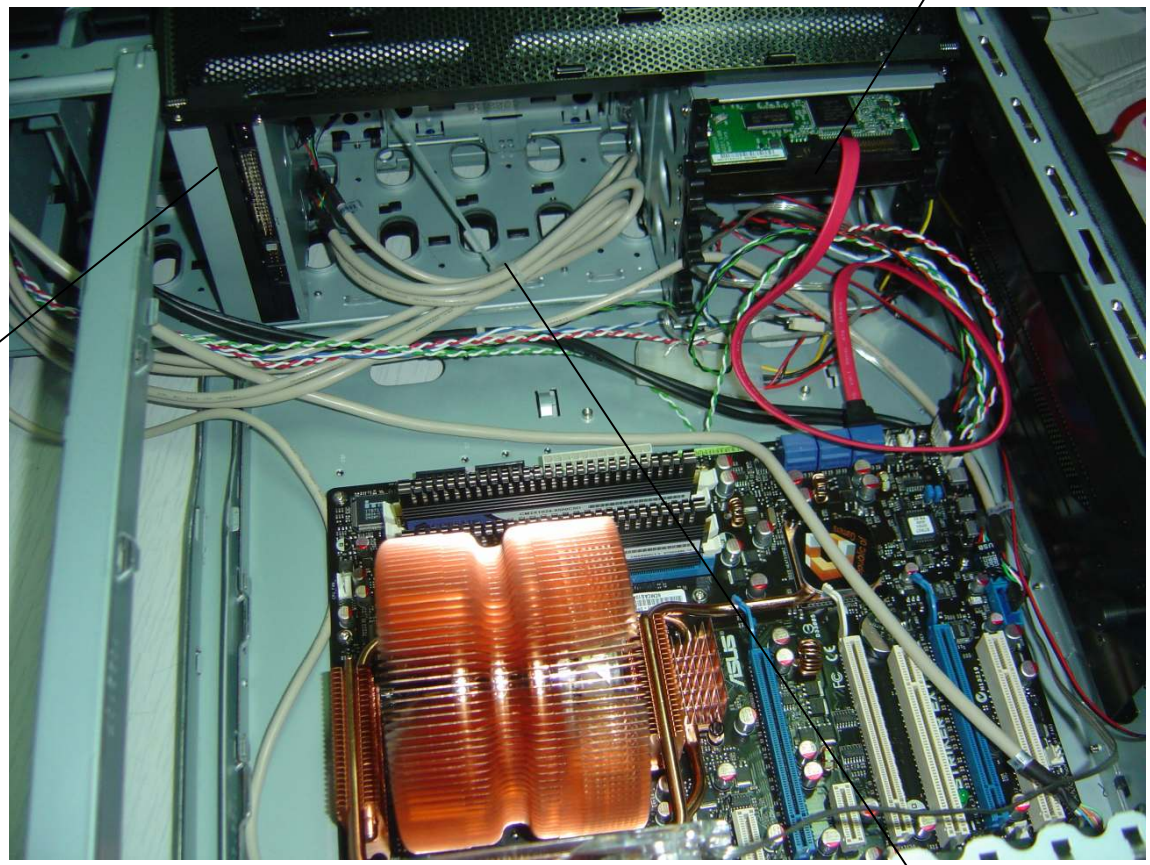
Zalmann heat cooler mounted on CPU and Motherboard



Mother Board and Zalmann cooler mounted using spacing brackets onto side of Xclio case

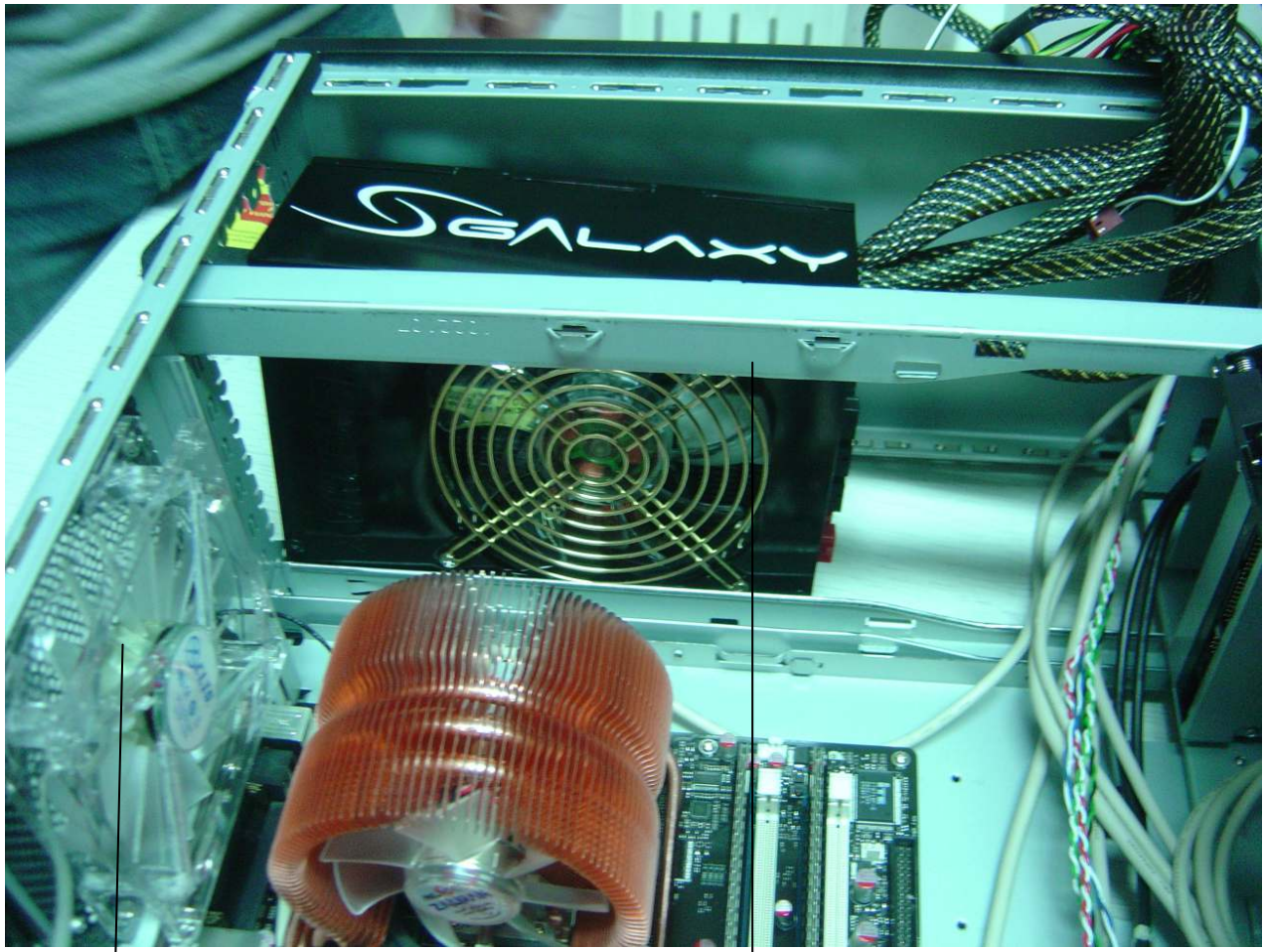


Maxtor 500GB
Hard drive



DVD writer
& Light
scribe
drives
installed

Wiring the different
Units & devices of
the PC together



Cooling Fans installed to case to improve cooling

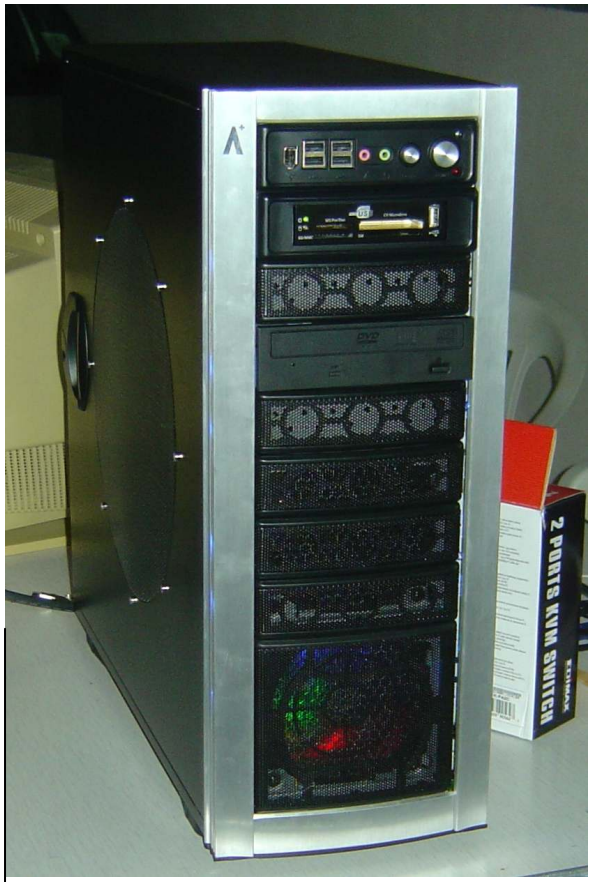
Power Supply Unit installed onto case railing

Corsair 2GB RAM installed onto motherboard

XFX GEFORCE 8800 GTS plugged into motherboard

Cooling fan Installed in front panel of pc to improve the heat flow hence creating a continuous current

Side view of Pc after all the components had been installed and wired together



Front Views of PC after installation process of all components had been completed.