

## Benefits

A solution to use GPU over internet for benchmarking and research purposes.

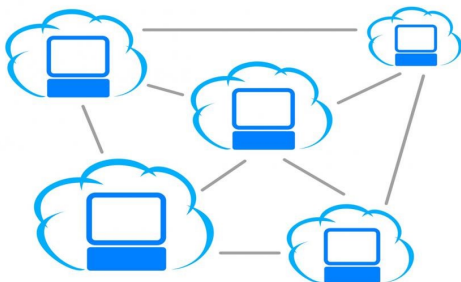
Executing tests and providing performance results.

Provides a web based interface through which users can register for GPU utilization.

Request for tests on GPU

Acquire results after test being performed.

No need to buy expensive GPU hardware.



## Technologies used



WampServer



**Military College of Signals, NUST**

## INTELL

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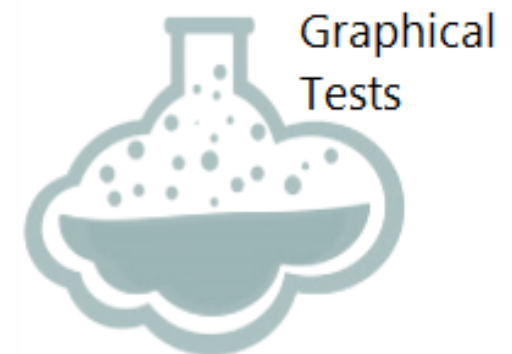
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## INTELL

**INTEgrated code generation and paraLLelization for Advanced Nvidia GPUs**



**Test the new and advanced Nvidia GPUs without even buying it**

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# INTEgrated code generation and paraLLelization for Advanced Nvidia GPUs

Nvidia GPU chips are partitioned into multiple streaming multiprocessors (SMs), each of which have multiple cores. Details of how a computation gets mapped to these SMs affects the performance enormously.



Explicit data movement from the CPU address space to the GPU

memory hierarchy is needed.

The GPU memory hierarchy must be managed explicitly in software to hide memory latency.

Improving memory bandwidth must also be managed explicitly using memory operations supported in software, and dedicated hardware mechanisms.

Maximum performance on a GPU may depend on tuning multiple parameters in the

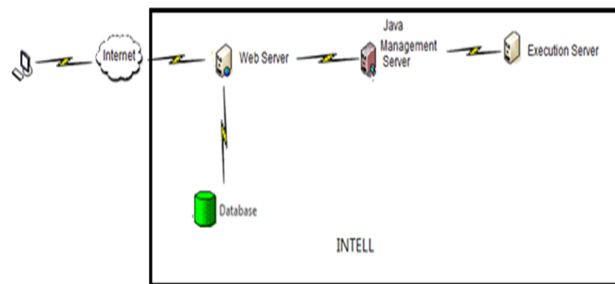
application.

Thus the programmer must explicitly manage available parallelism and the heterogeneous memory hierarchy. Failing to address any of these aspects appropriately may change the mapping of the computation onto the physical resources and thus may severely affect performance. Tools to simplify the programming and performance tuning process have the potential to increase the accessibility of this important technology and improve performance of the resulting code.

## GTX 770 MEMORY SPECS:

Memory Speed	7.0 Gbps
Standard Memory Config	2048 MB
Memory Interface	GDDR5
Memory Interface Width	256-bit
Memory Bandwidth (GB/sec)	224.3

## Architecture Diagram



## Key Features of the System

[PHP-Controller](#)

[PHP-Model](#)

[PHP-View](#)

[Java Communication module](#)

[JavaServer Module](#)

[JavaExecution Module](#)

[Web Interfaces](#)

[Graphical Results View](#)

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