**PROJECT PROPOSAL OF OPERATING SYSTEM**

* **Project Title:** Augmenting Operating Systems With the GPU
* **Group Members:** 
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* **Abstract: (7-10 lines) (Anusha)**

We usually work with CPUs and GPUs separately. A thought came for merging these powerful machines as CPU+GPU combination. As GPU’s computing power is high when it’s associated with Operating System Kernel it gives certain new opportunities in terms of software routing and packet processing with efficiency and effectiveness that is reduction of cost and bandwidth new optimizations which previously weren’t there. We present our structure for utilizing the GPU as a co-processor from an operating system kernel, and exhibit a model in Linux.

* **Contribution: (5-6 points) (Tabish)**

1. We will propose idea for CPU and GPU integrated together useful for information security purposes.
2. How CPU and GPU together enhance computation (Structure).
3. We will try to discuss GPU with asymmetric cryptography (RSA)implementation.

* **References: (Articles) (Haseeb)**

1. [**https://arxiv.org/pdf/1305.3345.pdf**](https://arxiv.org/pdf/1305.3345.pdf)
2. [**http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.210.5301&rep=rep1&type=pdf**](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.210.5301&rep=rep1&type=pdf)
3. [**https://fenix.tecnico.ulisboa.pt/downloadFile/3779576765088/IEEEMicro\_TESLA.pdf**](https://fenix.tecnico.ulisboa.pt/downloadFile/3779576765088/IEEEMicro_TESLA.pdf)
4. [**http://www.cs.cmu.edu/afs/cs/academic/class/15869-f11/www/readings/fung07\_dynamicwarp.pdf**](http://www.cs.cmu.edu/afs/cs/academic/class/15869-f11/www/readings/fung07_dynamicwarp.pdf)
5. [**https://s3.amazonaws.com/academia.edu.documents/44352770/Debunking\_the\_100X\_GPU\_vs.\_CPU\_myth\_an\_e20160403-24068-1lejaes.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1537644683&Signature=qtZ7qwRXSzGsu0zccG6JKCIThXY%3D&response-content-disposition=inline%3B%20filename%3DDebunking\_the\_100X\_GPU\_vs.\_CPU\_myth.pdf**](https://s3.amazonaws.com/academia.edu.documents/44352770/Debunking_the_100X_GPU_vs._CPU_myth_an_e20160403-24068-1lejaes.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1537644683&Signature=qtZ7qwRXSzGsu0zccG6JKCIThXY%3D&response-content-disposition=inline%3B filename%3DDebunking_the_100X_GPU_vs._CPU_myth.pdf)
6. [**http://www.joehummel.net/uploads/GPU-Computing-Era.pdf**](http://www.joehummel.net/uploads/GPU-Computing-Era.pdf)
7. [**http://cseweb.ucsd.edu/~marora/files/papers/REReport\_ManishArora.pdf**](http://cseweb.ucsd.edu/~marora/files/papers/REReport_ManishArora.pdf)
8. [**http://www.cse.chalmers.se/edu/year/2017/course/FDAT085/public/pdf/charalampos.pdf**](http://www.cse.chalmers.se/edu/year/2017/course/FDAT085/public/pdf/charalampos.pdf)
9. [**https://www.cs.utexas.edu/users/witchel/pubs/zhu17gpgpu-security.pdf**](https://www.cs.utexas.edu/users/witchel/pubs/zhu17gpgpu-security.pdf)
10. [**https://lib.dr.iastate.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=4122&context=etd**](https://lib.dr.iastate.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=4122&context=etd)