

Progress Report:

So far it has been a lot of research. I have ruled out OpenCL and pure Cuda api usage for coding. I am going to be using OpenMP with some Cuda if needed. I stumbled upon a presentation on Jacobi iteration with GPUs using OpenMP(2nd link). So the coding part of the project is done as of right now. The main issue I'm working on is getting it to compile. OpenMP has a target directive and everything so far hasn't shown how to target the gpu.

As far as the next stage of the project, I haven't totally decided which of the two ideas I want to do that were in my proposal as extra ideas. I am leaning more toward a load balancer on the GPU jacobi code.

Timeline:

- Get the compile error fixed(fri 26)


- Paper draft(Wed 1)

- Load balancer work with edits to paper depending how much load balancing is able to be done on the GPU (Mon 6)

- Final Paper and Presentation(Thurs 9)

Sources:

<https://on-demand.gputechconf.com/gtc/2018/presentation/s8344-openmp-on-gpus-first-experiences-and-best-practices.pdf>

 GTC16 - S6510 - Targeting GPUs with OpenMP 4.5 Device Directives

<https://developer.ibm.com/articles/gpu-programming-with-openmp/>