ECE 570 Project Proposal

Group Members: Austin Sharp, Fuli Ma, Kit Morton, Chris Schultz

Topic
The topic we will survey is GPU compilers, focusing on compiler optimizations done for GPU architectures, such as CUDA, OpenCL, etc.

Purpose of Topic
The reason why we chose this topic is due to the growing use of GPUs for general purpose programming. Since there are significant differences between CPU and GPU architectures, in terms of parallelism, compiler optimizations will vary. We will research ways in which code is optimized for GPU and CPU/GPU hybrid use.

Division of Work
While all members of the group will contribute to all parts of the project, we will assign roles for each member. These roles include:

- Writing and editing
- Information Gathering
- Presentation and images

Austin will be heading the writing and editing of the report. This means he will read through what the group comes up with and determine what is needed and what can be left out.

Chris and Kit will be in charge of information gathering, which includes finding papers and reading papers on the topic. They will keep track of which papers are useful and where important information is located. They will also be in charge of the references section paper.

Fuli will be in charge of condensing the report into a presentation. This includes making slides that convey the main point, yet are not too complicated or wordy.

Timeline
Jan. 22nd - Feb. 10th: Research completed and initial draft of report begins

Feb. 11th - Feb. 20th: Mid-report complete and the initial draft of report completed. Slides also are beginning to be created.

Feb. 21st - March 3rd: Initial draft edited and final report done. Slides are complete and rehearsing started.

March 3rd - Presentation date: Rehearse Presentation and report turned in.
References

These are papers that will possibly be used inside the report (more to come).


Rak, A.; Feldhoffer, G.; Soos, B.G.; Cserney, G., "CPU-GPU hybrid compiling for general purpose: Case studies," *Cellular Nanoscale Networks and Their Applications (CNNA), 2010 12th International Workshop on*, vol., no., pp.1,1, 3-5 Feb. 2010
