1. Project Proposal (due 3/17)

- Proposal Logistics:
  - Significant implementation, worth 55% of grade
  - Each person turns in the proposal (should be same as other team members)

- Proposal:
  - 3-4 page document (11pt, single-spaced)
  - Submit with handin program:

    "handin cs6963 prop <pdf-file>"

Projects

- 2-3 person teams
- Select project, or I will guide you
  - From your research
  - From previous classes
  - Suggested ideas from faculty, Nvidia (ask me)
- Example (published):
  - http://saahpc.ncsa.illinois.edu/09/papers/Chiang_paper.pdf (see prev slide)
- Steps
  1. Proposal (due Wednesday, March 17)
  2. Design Review (in class, April 5 and 7)
  3. Poster Presentation (last week of classes)
  4. Final Report (due before finals)

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Content of Proposal

I. Team members: Name and a sentence on expertise for each member

II. Problem description
- What is the computation and why is it important?
- Abstraction of computation: equations, graphic or pseudo-code, no more than 1 page

III. Suitability for GPU acceleration
- Amdahl's Law: describe the inherent parallelism. Argue that it is close to 100% of computation. Use measurements from CPU execution of computation if possible.
- Synchronization and Communication: Discuss what data structures may need to be protected by synchronization, or communication through host.
- Copy Overhead: Discuss the data footprint and anticipated cost of copying to/from host memory.

IV. Intellectual Challenges
- Generally, what makes this computation worthy of a project?
- Point to any difficulties you anticipate at present in achieving high speedup

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