**Final Assignment**

**CS2410 Fall 2012**

Computer Science Department
University of Pittsburgh

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**Requirements**

- Final assignment is a major, in-depth consideration of a computer architecture topic

- A student works alone, and chooses to do a **survey** or a **project**
  - For a survey, you need to pick a topic
  - For a project, you need to define a topic
    - Optionally, you may propose to form a two-people group
**Types and examples**

- **Survey**
  - Potential topics: heterogeneous processor architecture, multicore L2 cache design, main memory design for multicore, system design impact of non-volatile memory, flash translation layer, energy-efficient data center computer architecture, virtualization support in modern CPUs, smartphone CPU architectures, soft and hard error tolerance in memory hierarchy, speeding up computer architecture simulation, …
  - You may propose a topic not in the above list

- **Project**
  - Potential topics: Google cluster trace analysis, Intel Vtune analysis of certain applications, storage trace analysis, …
  - You may propose a topic

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**Expectation**

- **Survey**
  - In-depth discussions about 4~10 papers pursuing a common topic
    - Key idea, key trade-offs, strengths/weaknesses, comparison
  - 5~10 pages, 11-pt font 1-inch margin on letter size
  - Should clearly articulate why the topic is important (traditionally or in the future)

- **Project**
  - Relatively simple quantitative analysis of workload behavior/performance giving reasonable insights
  - 5~10 pages, 11-pt font 1-inch margin on letter size
Report format

• **Survey**
  – Introduction; discuss and motivate the problem
  – Main (use your own title); you can split this main part into separate sections as you wish; ensure to compare the surveyed techniques
  – Conclusions (or Summary)

• **Project**
  – Introduction
  – Methodology
  – Results
  – Conclusions (or Summary); ensure to highlight insights from the study

Timeline

• **1-page proposal due: 11/22**
  – Survey or project?
  – Topic (and why this is interesting and important)
  – Seed papers (survey) or a sketch of methodology (project)

• **Feedback from the instructor:** by 11/28

• **Report due:** 12/16