

# FINAL ASSIGNMENT



CS2410 Fall 2012

Computer Science Department  
University of Pittsburgh

## 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

## 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**