CPE 432: Computer Design

Computer Technology Trends

Research Project

Objectives

- Understand the technological improvements and the effect of these improvements on emerging computers, communication means, and personal mobile devices.

- Understand the impact of computer engineering solutions in a global, economic, environmental, and societal context.

- Know computer engineering contemporary issues.

Purpose

- Select an **active** technology topic in computer design.
- Example topics: processor design, memory hierarchy, storage systems, interconnection networks, etc.
- Survey the technology **trend** and the **state-of-the-art** solutions/products.
- Discuss the **effects** of the selected technology in a global, economic, environmental, and societal context.
- Give **conclusions** and expected **future** directions.

Procedure

1. Find a topic related to an active technology in computer design
2. Research your topic
3. Prepare a report
4. Send electronic copy of your report (PDF or Word format) to abandah@ju.edu.jo.
5. Email message title: Computer Design Report of Student No. #
6. Submit hard copy of your report in the class

Knowledge Sources

- Magazines: IEEE and IEEE Computer Society
- Technology news: CNN
- The internet, Google
- Encyclopedias: Wikipedia
- Scholarly literature search engines: Google Scholar
- Online courses: Coursera

Suggested Topics

- New processor, PMD, or computer

- Multi-core trend

- Low-power designs

- Cache design for multi-core processors

- High-performance memory and storage

- Reliable memory and storage

- GPUs

Research Report

- 2 to 4-page report
- Use IEEE A4 conference template at
http://www.ieee.org/conferences_events/conferences/publishing/templates.html
- Structure
  - Title and student name
  - Abstract
  - Introduction and Trend
  - State-of-the-art Solutions
  - Effects and Changes
  - Conclusions and future directions
  - References

General

- Marks: 15%
- You cannot pass the course without submitting your report report
- Each student should submit his/her own distinct report
- Cheating will not be tolerated
- Deadline: One week before the last lecture