

MCC2313

Advanced Computer System & Architecture

2013/14

Class Assignment 2 (*10%)

Instructions:

Three members in one group (not more).

For two of the major topics in the class, we will devote one lecture to student-run discussions of several papers. Leading a technical discussion is an important skill for a researcher. To practice this skill as well as deepen the class's understanding of the major topics, each student will work as part of a small team to lead a class discussion on a paper.

Sign up (with about 2 other people) to lead the discussion on one of those papers. For each of two main topics in the class (pipeline, hazards), we will devote a lecture to student-led discussions. In each of those lectures, two teams of students will present their papers. Everyone in the class is expected to read both papers before coming to class.

For leading the discussion, you have an obligation to the rest of the class to do a good job. This requiring you to spend some time and effort preparing for your class. Half of your group's grade for leading the discussion will be for the plan and half will be for the class, itself.

At the lecture before the lecture you will give, your team should turn in a class plan. The class plan should have three parts:

- A high-level outline and timeline for the discussion (e.g.: Motivation/overview **5 minutes**, explain the core idea **7 minutes**, discuss experimental results **5 minutes**, discuss implications and future work **8 minutes**)
- Notes on topics you plan to discuss, questions you want to ask
- References and summaries of at least two related papers (in addition to the paper that will be assigned to the rest of the class that day. What questions do these papers raise? How do they approach the problem differently?)

Suggestions

- Plan to spend about **15 minutes** covering the important basic points of the paper to make sure that everyone understands what is going on. You should plan to spend the rest of the class in more open-ended discussions. For this, the entire class should be involved. You will probably want to prepare slides to guide the first half of the discussion. The remainder will probably be more free-flowing. Rather than use slides, I would suggest preparing 1 or 2 questions to discuss. The main goal is to foster interesting and enlightening **discussion**.
- Your group should plan to meet and discuss the paper and the plan well before the class you will lead. One model might be to read the paper and then get together to do a rough draft of the plan and to decide on two other papers to look at. Then to meet again a few days later to discuss the other papers and to put together the final draft of the plan.

- Some generic ideas when thinking about discussion topics: what did the paper get right? what did they get wrong? What is the most important idea? How could we generalize the results? How is this paper better/worse/different than the other ideas on the same topic we've looked at? How does this paper differ from the other papers your team read as related work? Is this the right way to think about the problem? What problem is this paper trying to solve? Is this really an important problem? Does the paper solve this problem? Do you believe the results/claims of the paper? ...
- One interesting discussion may sometimes be for you to talk about the project you are doing for the class (assuming it is related to the paper). What problem are you trying to solve? How does your approach differ from or build on the paper?
- You may decide in reading the paper or the related work that I've picked the wrong paper for the class and that there is a better one for the class to read. That's fine. Let me know, and we'll change the assigned paper for your class.

Have fun.

This assignment is similar to

<http://www.cs.utexas.edu/~dahlin/Classes/GradArch/leading.html>

Group 1: 21 October

A multiple-access pipeline architecture for digital signal processing

Bilash Amantay

Adamu Isah

Bashir Elhaddad

Group 2: 28 October

Time Dependent Processing in a Parallel Pipeline Architecture

Ebrahim Khajeh

Hosein Abedinpourshotorban

Mannir Bello

Group 3: 11 November

A design of high-performance pipelined architecture for H.264/AVC CAVLC decoder and low-power implementation

Saasobah @ Nor Adibah Bt Ali

Suhaina Mohamed Zaki

Nur Fatimah As'sahra

Group 4: 18 November

Comparison of two common pipeline structures

Nurathirah Binti Omar

Shiva Soleimanizadeh

Mas Elyna Bt Mohd Azol

Group 5: 25 November

Bounding pipeline and instruction cache performance

Ihab Abdulkareem Neamah

Sabah Mohammed Hasan

Alaa Khudhair Abbas