

Multicore Computing – CS 5966 / 6966 – Week 7
<http://www.eng.utah.edu/~cs5966>

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1 Overview of this week

This week, we will study ISP in depth.

- On Monday 2/23, we will first review PPOPP 2008 briefly
<http://ppopp09.rice.edu>
- Then on 2/23, we will go through this Dagstuhl lecture
<http://www.eng.utah.edu/~cs5966/LECTURES/Week7/dagstuhl-2008-talk.pptx>
- On Wednesday 2/25, we will study our ISP technical report, and learn how to write operational semantics, plus understand the CB relation in depth.

2 Project Writeup

Our emphasis beginning the week of March 2nd will be on projects!

I will hold one lecture (Mon) per week and the other lecture (Wed) will be split into project 1-1 meeting times of 20 minutes. We can hold three meetings each week. Those whose meetings are not scheduled on a week can avoid attending the Wed meeting. This will go on for some time till your projects are well on track.

3 Lecture on Operational Semantics: Illustration on MPI

Kindly refer to

<http://www.eng.utah.edu/~cs5966/LECTURES/Week7/fig-1-a-using-opsem.txt>

for an illustration of MPI's opsem and how ISP's POE algorithm works.

Our definitive writing on the topic is at

http://www.cs.utah.edu/formal_verification/cav09-slack.html

4 This Week's Assignments

Operational Semantics, due 3/4/09 by class-time: Email me your solution as an ASCII / Word / PDF file before class-time on 3/4/09.

- Take the crooked barrier example from
<http://www.eng.utah.edu/~cs5966/LECTURES/Week7/dagstuhl-2008-talk.pptx>
- Put the MPI Wait statements at the end of each process
- Re-express this program in the notation of Figure 1(a) of
http://www.cs.utah.edu/formal_verification/cav09-slack.html
- Compute the C set till the end of program execution
- Show that both senders can match the wildcard receive
- For this exercise, assume that *buff* is always false. Ask me other questions thru email (e.g., how to obtain C_M).

Project Descriptions Due Fri 2/27: • Please email me a URL to a project page that you may please maintain

- Please populate that project page to contain a two-page description of your CS 5966/6966 project. Please describe the problem chosen, what you hope to learn, what you will do, and what you will deliver.
- The project grades depend on your performance, and a short presentation requested of you during the last week of this class
- The effect in this project should be commensurate with six 1-week homeworks. This is because
 - I won't be giving homeworks for six weeks
 - I will be holding only one lecture per week (on Mondays) beginning 3/2 Monday
 - The Wed lecture time will be for project 1-1 meetings, as follows:
 - * Students with odd numeric class-codes: 3/4 first meeting; repeat every other week when a class is held
 - * Students with even numeric class-codes: 3/11 first meeting; repeat every other week when a class is held
 - * Upon conflicts and/or holidays, we will reschedule a student's meeting.
- Prerequisites to attending a meeting:
 - Have reportable progress items noted on project webpage
 - Come discuss / ask questions, etc.