

Short Term Plan

Simulation & Modeling

[focus on parallel simulation *execution*]

Course Overview



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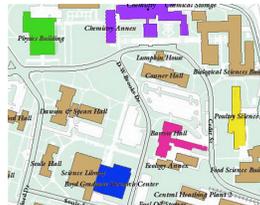
- Today go over expectations and course plan
 - » 1 hour class today.
- Wednesday paper summary discussion
- Movie Thursday (50 minutes)
- Next week introduction to discrete event simulation
 - » Different simulation “views”
 - » Event view
 - » Process oriented view

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Administration / Logistics

- Who am I?
 - » Office: Boyd 219C
- maria@cs.uga.edu
- Office Hours: Thursdays
 - » And by e-mail appointment
- TA: TBD - check class web page for updates... probably none...



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Communication

Web Page (different from image on right)

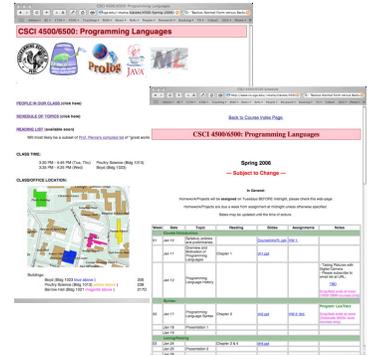
www.cs.uga.edu/~maria/

- » Navigate to course.

- Your Responsibility
 - » Understand policies, honor code
 - » Work independently on projects & homework
 - » Check page often for updates “refresh” to get latest copy

Email list (tentative name)

- CS-SIM@listserv.uga.edu



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Course Objective

- Learn about simulation and why it is useful
- State of the art simulation techniques
 - » The focus is more on simulation execution rather than modeling, although we will do both.
 - » Agent Based Simulation Systems
 - » Biological Simulations (Social Animals)
- Hands on programming of ideas described in technical paper
- Introduction to research on simulation systems, past and present.
- History (next week)
 - » Parallel & Distributed Simulation is now in the mainstream ← Converting previous advanced simulation course to introductory simulation course.

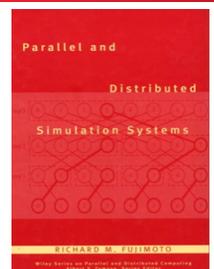


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How we're going to do it

- Read & Listen
 - » Parallel and Distributed Simulation Systems, Richard Fujimoto
 - » Still Relevant!
- Practice
 - » 3-5 introductory programming assignments
 - » 1 final project – preferably programming project
 - Proposal, Interim reports/presentations
 - Final Report & Presentation
 - » Technical paper summaries & presentations
 - Learn how to read/skim papers
 - present & listen to your peers
 - Learn how to make a nice presentation - friendly environment
- Test
 - » 2 Midterms, 1 Final, Quizzes
- Talk and think in class, and outside!



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How to get an A? B? C?... F?

- Theory 45%
 - » 2 Exams (10% each) + Final 15% + Quizzes 05% = 40%
- Practice 50%
 - » Homework, weekly summaries & presentation & programming assignments
- Participation 5%
 - » 100% attendance will **raise** your final grade by **2%**
 - » **Constructive** participation on class list may raise your grade by **1%**



How to get an A? B? C?... F?

- See syllabus web page ...

percentage break down



Policy on Collaboration

- Assignments/projects/summaries:
 - » Purpose: familiarization of concepts and details of programming languages
 - » Work on project independently:
 - No direct sharing of code
 - No line-by-line assistant
 - No exchange of code
 - » You are encouraged to ask questions of one another, and to respond to other student's questions (and especially on the email list)
- Exams:
 - » Closed-book. No outside assistance is permitted. No additional materials may be used.
 - » **No make-up tests** unless absence is due to **serious** illness. Doctor's diagnostic note is required. The final grade will be scaled accordingly.

Paper Summaries (more details later)

- 1 page summary of an assigned technical paper -- need to reflect that you understand the paper and its contribution(s) to the area:
 1. What is the problem that the authors are trying to solve?
 2. What is their approach and how is it original?
 3. What are the assumptions/limitations?
 4. What are the results/impact of paper (Why is this paper important)?
 5. What constructive criticism can you give to the presenter (e.g. would should have been included/excluded)?

Paper Presentations

- 2-3 presentations will be expected, needs to be in power point.
- We will assign presentations next week or the following week. And start presenting Week 3.
 - » Caveat: If someone signs up for a paper and then later drops, we will need to shift the last scheduled person to the empty slot(s) (other volunteers are welcomed and will be solicited in class).

Paper Presentations

- Turn in:
 - » Presenter:
 - Turn in .pdf of slides
 - 1 summary including self critique.
 - » Rest of class:
 - 1 summary

Example Paper Summaries

1. What is the problem that the authors are trying to solve?
 - » Why is the problem important?
2. What is their approach and how is it original and innovative? (original - compare it against contemporary approaches).
3. How is the approach evaluated?
 - » What are the simplifying assumptions?
 - » What are the strength and weaknesses of their solution?
4. What are the results/impact of paper
 - » Why is this paper important?
 - » Did they solve the problem?
 - » Does it have an impact - is it still relevant? Why is it worth reading.
5. What constructive criticism can you give to the presenter (e.g., would should have been included/excluded, make sure to address 'concepts' covered in the paper and relate how they were covered by the presenter).

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Tentative/past projects for class

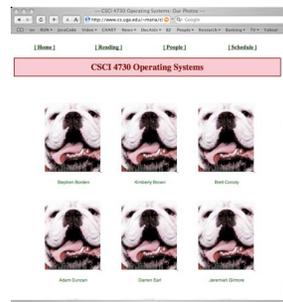
- Soccer Simulation Server Warm-up, not hard
- Discrete Event Simulator
 - » Simple Discrete Event Simulator (distributed)
 - Ping/Pong like application
 - » Distributed Simulator
 - SASSY Familiarization
 - Agent Based Simulator
- Ant Simulator (Ant the insect)
 - » Tweaks in an existing simulator.
- Stock market modeling project
 - » Python
- Term Project

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Homework 1

- See schedule for details...
- Digital Image -- How to get out of the dog pound (and improve your grade).



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Introductions

First Quiz:

- Name, major, year?
- What are you hoping to learn from the class?
- What type of projects are you interested in?
- What do you want to do when you graduate?

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