“Hot Topics” in Operating System Research

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http://www.cs.unc.edu/~jeffay/courses/comp290

Hot Topics in OS Research
What will we do in the course?

♦ Read and discuss papers from the OS literature!
♦ Each student will...
  » Do some background reading to find a topic of interest
  » Research the topic in depth
  » Develop a week-long seminar on the material
  » Present the seminar in class and lead a discussion
♦ Possible topics:
  » Energy management
  » Wireless/mobile/ubiquitous computing
  » Information/content/service delivery infrastructure
  » Security
  » Embedded and real-time systems
  » ...

Hot Topics in OS Research
What will we do in the course?

♦ Homework this week:
  » Start browsing the last few SOSP, OSDI, SIGCOMM, MOBICOM, … proceedings
♦ Next week:
  » Come by my office to discuss your readings and pick a topic
♦ First presentation will be the week of Sept. 17

COMP 290 Administrivia
Prerequisites

♦ I assume that you have had:
  » At least 1 ugrad OS course (such as COMP 142 at UNC)
♦ … and are certifiably dangerous with:
  » Distributed systems technology
    ❖ Ideally have had COMP 243 (Distributed Systems)
  » Networking
    ❖ Ideally have had COMP 123 (Internet Protocols and Services)

Hot Topics in OS Research
So what is this course about?

♦ Are there any “hot topics” in OS research?
♦ What’s at the frontier and is it worth exploring?
  » Rob Pike: “Systems software research is irrelevant”
♦ Meta course goals:
  » Learn how to do “paper” research
    ❖ “Teach” students how to critically evaluate published work
    ❖ Practice “integrative thinking”
  » Practice organizing and presenting complex material
  » See how OS and distributed systems research is done
    ❖ Study good (and bad!) examples of systems research

Hot Topics in OS Research
What will we do in the course?

♦ Operating assumption is that I just get you started
  » You go off and rummage until you find something interesting to you

COMP 290 Administrivia
Course materials

♦ Zillions of papers that I’ll put on-line (or put pointer to on-line) and you download and print
  » See: http://www.cs.unc.edu/~jeffay/courses/comp290
COMP 290 Administrivia

Grading

- Your grade is based on the substance of our discussions and the quality of your presentation
  - Students will “grade” each other’s presentations
  - I expect everyone to get an “H”
  - Ideal situation is that a *Computing Surveys* paper results from your presentation

- You are also expected to come to *all* classes and participate in discussions

- Sorry, but auditing of this course is allowed only by permission