



# **CS614: ADVANCED COURSE IN COMPUTER SYSTEMS (FALL '06)**

**Instructor: Ken Birman**

**TA: probably Lakshmi Ganesh  
(depends on class size)**

# TOPICS

- Operating Systems
  - Concurrency, file systems, VM, I/O, etc.
- Distribution/Networking
  - RPC, clusters, pub/sub, mobility, etc.
- Fault Tolerance
  - Replication, consensus, transactions, etc.



# READING

- Each lecture has two conflicting papers.
  - Different approach, competition, criticism, ...
- 27 lectures, 54 (required) papers!
- From the best journals and conferences.
  - TOCS, SOSP, OSDI, ...



## SUMMARIES

- Each student is *required* to prepare notes on each paper before class and to bring them to class for use in discussion.
- Your notes should list assumptions, innovative contributions and criticisms. Every paper in the reading list has at least one major weakness.



# LECTURING

- Each student is strongly encouraged to present one or two lectures
  - Requires some extra background reading
  - Use PowerPoint
  - Please don't use last year's slides
- Run slides by me or the TA before lecture
- We'll put the slides on-line



## CLASS FORMAT

- 45 minutes presentation, 30 minutes discussion/brainstorming.
  - In that order, or mixed.
- All students are required to participate!
- Counts in final grading.



# PROJECT

- One major project per person
  - Or two persons for a very major project
- Choose area within one week and tell me.
- Do survey (2-3 pages) by Sept. 28
  - Counts towards your grade
- Discuss topic with me too



## PEER REVIEW

- A few weeks before the end of the semester, you'll produce a draft of your paper.
- Each draft will be “reviewed” by 3 co-students
- Reviews go back to you
- Revised final submission + rebuttal due last day of classes
- Grading:
  - Project: 50%
  - Participation in all of this: 50%





## PROJECT SUGGESTIONS

- Service discovery in dynamic networks
  - I have ideas, but you could also talk to Gun Sirer or Johannes Gehrke for more ideas
- Technology ideas to enhance protection of private data and activities
- Scalable trust
- Issues in integrating medical telemetry into electronic medical health records
- ....



# OFFICE HOURS

- Ken will normally be around from 10am to 2:30 or 3:00pm
  - But he attends meetings and goes to lunch with the department, so noon-1:15 is usually bad
  - Can make appointments by email if you prefer



# IMPORTANT DEADLINES

9/14	E-mail me your topic of interest
9/28	Submit 2-3 pages survey on topic
10/5	Discuss project topic with me
11/9	Draft version of paper due
11/16	Peer reviews due
12/5	Final paper + rebuttal due

