Introduction to Database Systems

CS432

Instructor
Jayavel Shanmugasundaram

Course Information

- Information is one of the most valuable resources in this information age
- How do we effectively and efficiently manage this information?
  - Relational database management systems
    - Dominant data management paradigm today
    - 6 billion dollar a year industry
  - You will see this in the job market!

People

- Instructor
  - Jayavel Shanmugasundaram
- TAs
  - Rohit Ananthakrishna
  - Chavdar Botev
  - Chris Re
  - Ilya Rifkin

Access to Instructor and TAs

- Office hours
  - Posted on course web site
  - http://www.cs.cornell.edu/courses/cs432
- Course newsgroup
  - Monitored by TAs
  - Reply within 24 hours on weekdays, 48 hours on weekends
- TA mailing list
  - cs432ta@cs.cornell.edu
  - Do not directly email TAs

Course Structure

- Three components
  - Class lectures (0%, but attendance is crucial)
  - Assignments (60%)
  - Examinations (40%)

Class Lectures

- Textbook: “Database Management Systems”
  - By Raghu Ramakrishnan and Johannes Gehrke
  - Required textbook
- Syllabus
  - Defined by class lectures
  - Not defined by textbook
**Prerequisites**

- **Courses**
  - CS212 (Computers and Programming)
  - CS312 (Structure and Interpretation of Computer Programs)

- **Programming expertise**
  - C++ programming (large projects!)
  - Can probably pick it up if you are familiar with Java/C
  - First assignment should help you decide!

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**Assignments**

- **Build components of a simple relational database system**
  - Should have a working system at the end of the course
  - We will provide a lot of stubs

- **Six assignments**
  - Buffer manager (10%, C++ programming)
  - SQL (5%, no programming)
  - B+-trees (20%, C++ programming)
  - Joins (10%, C++ programming)
  - Relational operators (5%, no programming)
  - Recovery (10%, C++ programming)

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**Assignment Policies**

- Non-programming assignments have to be done individually
- Programming assignments can be done with a partner
  - Liberal divorce laws!
  - Can do project alone, but not recommended

- **Course management system**
  - Download assignment
  - Create groups
  - Submit assignments
  - View grades

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**Assignment Policies (contd.)**

- No late submissions
  - Will receive 0% of grade for late submissions
  - No exceptions (assignments handed out well in advance of deadline)

- **Regrade requests**
  - Within 7 days after graded assignment is handed out
  - Hard deadline

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Exams

- Mid-term exam (15%)
  - 24 October 2002, 7:00-9:30pm
  - Closed book exam
- Final exam (25%)
  - Examination period
  - Closed book exam
  - Cumulative with emphasis on second half
- Do not schedule other events on these days

Relationship to CS433

- CS432 is about database internals
  - DB2, Oracle, Microsoft SQL Server, ...
- CS433 is about database applications
  - Amazon, Ebay, ...
- Complementary
  - Suggest that you take both
  - Can take CS432 without taking CS433
  - Cannot take CS433 without taking CS432

Is CS432 a lot of work?

- Yes!
  - Probably one of the most substantial programming courses
  - Much of the material is probably new to you
- Then why on earth should I take this course?
  - Intellectual argument
    - Big conceptual ideas
    - Meeting of theory and practice
  - Utilitarian argument
    - Many, many real applications (digital libraries, web, ...)
    - Job market!

Reminder

- Complete academic integrity form
  - Need to hand this in for your course management system account
- Shop around for partners
  - First assignment will be handed out on Monday