Who am I?

- Dr. Yan Huang, graduated 2003 from University of Minnesota
- Research interests: database, data mining, GIS
- Taught undergraduate databases, data mining, spatial data management
- Can be reached
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  - http://www.cs.unt.edu/~huangyan
Who are you?

Course Entrance Survey
- Answer 25 questions

What is this course about/not about?
- It is about Database Management System Implementation
  - More behind the scene concepts and technologies
- It is not about database design and implementation
  - Database design and implementation is covered in database I
  - Major topics include: conceptual model, relational data model, SQL, database design guided by normal forms
So databases?!

- It is interesting/boring
  - Interesting: job opportunities, real world applications
  - Boring: it has THEORIES!
- It is easy/hard
  - Easy: it is just about data, I've been doing this all my life
  - Hard: "I thought it was just about manipulating my data, why do I need to know all the other stuff?"
- We will try to make it interesting and easy. But it is definitely not an interesting and easy course as you thought!

So what shall you expect/not expect?

- Expect to learn
  - Core behind the scene database management system implementation issues
  - Disk management, file organization, access control, transactions, concurrent control, query processing and optimization, recovery, and some advanced database technologies
  - Interesting projects to validate what you learn in class
- Do not expect to
  - Learn button pushing/command picking in vendor specific DBMS
  - Become an vendor specific DBA after this course

Before you take this class, you should know

- Conceptual database design
- Relational data model
- SQL/relational algebra
- Algorithmic cost analysis
- Simple Java programming
Books
- **Supplement**:
- We will use hand-outs and supplement book whenever the coverage of the topics in the text book is not sufficient.

Grading Scheme
- Midterm exam - 30%
- Final exam - 30%
- Assignments including Projects - 30%
- In-class quiz – 10%.
- Exams will use notations and terminologies covered in slides and class.

About course projects
- 3-4 small course projects
  - **Oracle**
  - Examples:
    - Access control methods in Oracle
    - Exploring indexing schemas to speed up a give set of queries
    - Analyze a query plan in Oracle
    - Concurrency control facilities and the results of a set of queries
    - JDBC
What do I expect from you?

- Read regularly (hand out/text book)
- To get a passing grade (C or above) minimum requirements
  - Submit all homework/quiz/projects, take all exams
- Respect academic honesty
- Correct my pronunciation

What should you expect from me?

- Respect and caring
- Timely response to your questions
- Well organized class structure and lectures
- Balanced homework/project assignment, quizzes, and exams
- Fair grading
- Interactive class room learning

What should you expect from TA

- Timely feedback on homework
- Fairness in grading
- Timely response to your email questions
- Timely feedback on your homework
- Useful help during office hours for lab and homework questions
Topics explained

- Conceptual level, logic level, physical level
- Now imaging you are a DBMS, you need to resolve a bunch of issues
  - Disk management, file organization
  - Access method
  - Transactions
  - Concurrent control
  - Query processing and optimization
  - Recovery

**Two-tier architecture**: E.g. client programs using ODBC/JDBC to communicate with a database

**Three-tier architecture**: E.g. web-based applications, and applications built using "middleware"
Oracle

- DBA will create an oracle account for everyone and send an email to you
- A simple demo
- Ullman has a very good tutorial for beginners
  - [http://www-db.stanford.edu/~ullman/fcdb/oracle/or-intro.html](http://www-db.stanford.edu/~ullman/fcdb/oracle/or-intro.html)
- A searchable online Oracle documentation
  - [http://esupport.csci.unt.edu/oracle](http://esupport.csci.unt.edu/oracle)