CS387 Database design
Instructor

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- PhD from France - 1999
  Research: Automated deduction and theorem proving, New technologies in education, verification of hardware and software, data mining.
- French accent.
- Teaching in France, in Cambodia, in USA (State University of New York at Stony Brook).
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What is cs387?

- CS 387 prepares you to face the real world of databases application and internals development.

- It presents the fundamental concepts of database management. It provides a study of data models, data normalization; data description languages and their design and form, query facilities including relational algebra, relation calculus, and query functions. It is a design class and not a programming class.

- It will focus on the SQL query language and if we have time we will look at JDBC.
Description

- http://www.csis.pace.edu/~scharff/cs387
- Everything is on the web.
- Class time
  Lecture + Exercises
- Office Hours - Where?
- Textbooks
- Exams
- Assignments
- Grades
- Academic dishonesty
- Guidelines for assignments
Prerequisites

• High-level language programming
  – JAVA

• Data structures and algorithms
  – Trees, pointers, searching, sorting

• Discrete mathematical structures
  – Sets, relations, graphs

• Formal logic
  – Propositional logic, truth table, predicates
Schedule

- Introduction (Chap 1, Chap 23, Part 9)
  - Entity Relationship model (Chap 2)
  - Relational data model (Chap 3)
  - Relational algebra (Chap 3 - sec 2)
  - SQL and other relational languages (Chap 4 and 5)
  - Relational Normalization theory (Chap 7)
  - Integrity and security (Chap 6)
  - Indexing and hashing (Chap 12)
  - Embedded SQL (Chap 4)
  - Query processing (Chap 13)
  - Dynamic SQL (Chap 4)

- Languages and platforms keywords: Access, SQL server, Sybase, Oracle, SQL, JDBC, ODBC, JAVA, XML...