COS 597A:
Principles of
Database and Information Systems

Final Remarks

Where we have been

- MODELS and QUERIES
  - Entity-Relationship
  - Relational
  - XML
  - Information retrieval
- STORING, RETRIEVING, and MAINTAINING
  - File organization and indexing
  - Relational query evaluation and optimization
  - Correctness and Durability
    - Transactions
    - Managing concurrency
    - Managing failure

A "models and methods" course

- Understand what going on
  => Make better choices in design and use of database system
- Apply methods in other contexts
  - research requires solve problem with similar characteristics?
  - use techniques, not nec. database
    - Specification/modeling/correctness
    - Algorithms and cost analysis
    - Concurrency control and reliability

What we have missed

- In "classic" data base studies:
  - Security
    - Access
    - privacy
    - views
  - Even more DB models
  - Distributed System Aspects
  - Applications Programming

What we have missed

- In studies of information search:
  LOTS!
  Including:
    - All but small sample of search techniques
      - Machine learning techniques
    - Mining databases behind Web pages
      - deep web search

Where Info Management going?

- Energetic research and development
  - New models and functionality
  - Search on collections of non-text objects
  - Sophisticated Web search
    - Example: Semantic Web
  - DB as partner in much larger endeavors
  - Data mining
    - Discovery of information from data
      (COS 424: Interacting with Data)