CS740
DATABASE ENGINEERING

by

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University of Waterloo

Orientation Meeting: Monday 09/10 2-3p.m. DC 3313

List of Slides

Topics

1. Introduction to Relational Systems Implementation
   - query processing and optimization
   - advanced schema design
   - concurrency and recovery
2. Hands-on experience
   - implementing a single-user RDBMS system for querying XML documents
3. Extensions of Relational Technology

Project

The class assignments are part of a **project**:

A1: Storage manager for relations representing XML data, including indices and supporting disk-resident data structures.

A2: query processor for a subset of relational algebra.

A3: XML query translator and optimizer.

GOAL: implement a single user relational system for querying XML documents.

Class Information

Instructor:

David Toman

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phone: x4447 (use e-mail if possible)

Classes:

To be scheduled today

Class Information:

`http://db.uwaterloo.ca/~david/cs740`

Office hours:

Tuesday 4:30–6, DC 3128, or by appointment.

Books, Lecture Notes, etc.

Required Text:

Database System Implementation.
Molina, Ullman, and Widom, Prentice Hall 2000.

References/Optional:

Database Management Systems.
Ramakrishnan and Gherke, McGraw Hill, 2000.

Lecture Notes:

Additional *lecture notes* and *copies of transparencies* are/will be available from the class WWW page.

Prerequisites

- You must know how to use **JAVA** or **C**

  ⇒ edit, compile, and run programs **in UNIX**
  ⇒ including debugging and testing the programs

- You must be familiar with relational databases

  ⇒ relations, queries (calculus, algebra), SQL, . . .
  ⇒ **this is not CS448/648**

- You must understand elementary math

  ⇒ what is a set, relation, function, inclusion, etc.

Assessment

- lectures (no influence on grade),
- project assignments: 50% (tentatively 15-15-20%)
  $\Rightarrow$ electronic submission **AND** hardcopy in class
- final exam: 50%

At least 50% score on the final is necessary to pass the class.

Fine print: the usual university policies on academic honesty, fair use of computing facilities, etc., apply by default.

Scheduling

GOAL: 1 or 2 blocks of 3 hours total

Time	Mon	Tue	Wed	Thu	Fri
9-10	■				
10-11	■				
11-12	■	■		■	
12-1	■	■	■	■	
1-2	■	■		■	■
2-3	■				■
3-4	■				■
4-5	■	■		*****	■
5-6		■		*****	■
6-7		■		*****	■
7-8		■		*****	■

■ —not available; ***** —preferred