Database Theory
VU 181.140, SS 2015

Report and Presentation

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Outline

1. General Information (Recapitulation)

2. Assignment of Articles

3. Important Dates (Provisional Plan)
Course Overview

Fundamental aspects of (relational) query languages

- Relational algebra vs. relational calculus vs. SQL
- Introduction to datalog
- Codd’s Theorem: relational algebra vs. First-Order logic
- Trakhtenbrot’s Theorem: some undecidability results
- Complexity of Query Evaluation
- (Acyclic) Conjunctive Queries
- Inexpressibility Results (Ehrenfeucht-Fraïssé Games, 0-1 Laws)
Assessment

Components

1. Individual work on 1 article from database theory research
   - Details (e.g. assignment of articles) to be provided later
   - Short written report of this article (2–3 pages)
   - Oral presentation (ca. 20 min, depends on number of participants)
   - Sufficient to get mark 3 (or worse)

2. Oral exam
   - positive assessment of report & presentation required
   - exam not compulsory, but required for marks 1 and 2
Assessment of Report & Presentation

**Criteria of a good report & presentation**

- reasonable effort (30 - 40 hours)
- basic understanding of the article
- honestly identify parts which you did not understand (give a justification: which prerequisites were missing?)
- relate the article to the contents of the course
- quickly check important background articles
- (presentation) being able to answer questions (in particular, those relating the article to the course)
Assignment of Articles

3 “special interest groups”

- Query Evaluation and Optimization
- XML and RDF Data
- Datalog

Selection / Assignment of Articles

- Every student either has to register in TISS for one of these groups or directly selects an article from the list of articles in today’s class.
- Assignment of the article to each student: either right now (by entering your name in the list of articles) or by email (if you prefer to register for a topic in TISS).
# Important Dates (Provisional Plan)

## Submission of Report and Slides

- Submission by mail to pichler@dbai.tuwien.ac.at
- Deadline: 11 June, 2015

## Presentation

- **max. 4 classes:** 16 + 23 June 2015
- **definitive plan will be announced by mail after the submission deadline** (depends on exact number of students)
- **presence at the presentations is compulsory** (not just for the speaker, also for the audience)

**preferences concerning the date of the presentation:** per mail together with the submission of the entire material (first-come, first-served)