Advanced Database Systems Research Paper Information Page

[Important Dates][Paper Teams and Presentations][Possible Paper Topics][Searching for Related Papers][Writing Your Paper]

This page provides information regarding research paper for the Advanced Database Systems class. Some examples of research papers from previous course offering are given by following the following link: Past Course Paper Teams. One of the papers was subsequently published in SEDE 2006 Conference. You should aim for at least such quality papers.

1. Important Dates

1. Communicate to the instructor about the paper teams - **02/06/2007**. Each team may be made of 2 or 3 people at most. One of the group members will play the role as a team leader, who will be responsible for maintaining a paper website. Email the instructor with your team information (subject line: paper teams). It is courteous to carbon copy the email to all other team members.

2. Identify a paper topic and submit the title of the paper (tentative title is also fine) along with some keywords - **02/13/2007**. Email the instructor a link to the paper website, team information and title (subject line: paper topic). Possible topics are given on this page.

3. Create a bibliography of related papers - **03/20/2007.** On the paper website, maintain a bibliography of related papers. For each relevant paper, download the paper on your pascal account and post a link to the paper on the paper website that you maintain. For each bibliography give a short summary of the paper (may be a small paragraph). You need to summarize in your own words (i) the problem being addressed, (ii) motivation for the problem (why is the problem interesting?), (iii) results of the paper, (iv) significance of the results, (v) weakness of the paper, and (vi) future directions and points in the paper worth pursuing further. Also, give some areas which the paper might not have considered. [Grade component for bibliography = 10% of the total paper]

4. Present your topic as per the presentation schedule given below. You might want to look at Hints on Writing Technical Papers and Making Presentations or other web sites such as Presentation Advice from Dr. George Corliss, http://www.cs.iastate.edu/~honavar/grad-advice.html [Grade component for presentations: 15% of the total paper; Grade component for peer evaluations : 5%]

5. Submit your final paper - **Tuesday, May 01, 2007**. Details about writing your paper (format, length, and template) are given in the section Writing your paper. Submit a hard copy of the paper. Also, email the instructor soft copy of the paper including any software files in a zip (or tar) format. [Grade component of the final paper = 70% of the total paper].

2. Paper Teams and Presentation Schedule

Team	Topic	Presentation Date
Sailaja Bulusu Madhavi Jayanthi Sumedha Nandedkar	Indexing, Storage, and Compression techniques for XML Paper Web Page	04/24 – Team 1 (35 min)
Soumya Burugu	Constraint Optimization for XML Databases Paper Web Page	05/01 – Team 1 (20 min)
Tuan Dinh Charles Hart-Slater Brian Jahns	Topic : Not Yet Decided Paper Web Page	05/01 – Team 2 (35 min)
Mohammad IslMolla Palaniappan Senthil	Access Control Policies in XML Paper Web Page	05/01 – Team 3 (25 min)
Ramakumari Polasa Prajakta Sonar	Encryption and Signature Techniques for XML Paper Web Page	05/01 – Team 4 (25 min)
Sheena Driver Yongwei Qin Jie Shen	XML for Bioinformatic and Health Information Systems Paper Web Page	05/01 – Team 5 (35 min)

3. Possible Paper Topics

1. Constraints in XML (how to express constraints in XML, checking for XML constraints, constraints in XML Schema and what we need more in there, and other related items)
2. Constraint Optimization in XML
3. Security Aspects in XML (modeling access control policies as XML data, defining these policies, and a sample xml data with policy implementation)
4. Schema Evolution in XML
5. Programming language extensions to XML, XQuery
6. Transaction Processing in XML
7. indexing, storage, and compression techniques for XML
8. Updates for XML (Translation of XML Updates to SQL inserts and vice versa; Translating XML Updates to queries in XML, ...)
9. XML and Web services

10. Functional Dependencies in XML (Designing functional dependencies(f.d) - challenges as compared to relational database, removing redundancies in f.d's,normalisation algorithms for native XML databases, ...)
11. Storing XML into Relations
12. Data Mining Techniques for XML Constraints
13. XML Schema/Data Integration
14. Query Processing for XML databases
15. Distributed Query Processing and Query Optimisation Techniques for XML Databases
16. XML for Bioinformatic Databases
17. XML Stream Management
18. Survey on Benchmarks in XML (Survey different benchmarking standards for XML such as XQuery benchmark queries, apply these benchmark queries and evaluate the time for your Galax interpreter, and ...)
19. ...

4. Searching for Related Papers

Type in your keywords and search for related papers using your favorite search engine. Go to ACM and IEEE Digital libraries from Marquette library using the following link: http://www.marquette.edu/library/electronic/ejournals.html. Also, use the citeseer link : http://citeseer.ist.psu.edu/ and other appropriate search locations.

5. Writing Your Paper

A useful link is provided here at Hints on Writing Technical Papers and Making Presentations. A sample template of one of my papers is given to you here in XConstraint_JDM.doc. Your final paper length needs to be around 20-25 pages in length conforming to the sample paper template given to you. Please note the bibliography and reference style used in the paper carefully and follow it closely.

In the final paper, most likely you will have a related work section. The related work section will have two sub sections. The first one being the related work of the sub problem you are concentrating in this paper. The second is the overall classification you have done as part of your bibliography. There is no fixed upper limit, but try to get your related work section between 5-10 pages (double spaced in the format given to you). Note that your actual bibliography document that you submit in Phase 1 could be larger and there is no page limit in phase 1

The final paper is weighted for : 1) Presenting clearly the context of the problem and motivation of the sub problem that you are concentrating; 2) Explaining an example document that you are using for your paper (optional - depends on the kind of paper you are dealing); 3) Reporting your contributions for the sub problem, such as your system architecture, algorithms, experiments or analysis of new things that you have learnt

and/or applying some of the techniques you have learnt in this class for your sub problem. You can aim big and report big in the paper, but finally you may do only a small portion what your aim here. 4) Listing your conclusions, addressing concerns, your view points and also future work that one can carry after reading your paper or future work that you might carry if you had more time.