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Web Databases and Applications



Teaching Plan

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What we want to cover this term?

BB – materials are ALL there

- Semi-structural data - XML
 - Ongoing research and developments
- Assumptions
 - RDBMS
 - Web programming is preferable
- There is some system work with IBM DB2
- More focus on analytical and conceptual skills
- Discussion and presentations are important
- TA: Alvin Mak

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Outline

1. Jan 3: WDB and XML Overview
2. Jan 10: XML Data Model - DTD and XML Schema
3. Jan 17: Query Data Model, Xpath and Identity Constraints
4. Jan 24: Lunar New Year
5. Jan 31: Functional Dependencies and Normal Forms
6. Feb 7: Lab: XMLSpy
7. Feb 14: Lab: DB2/XML
8. Feb 21: XML Storage Techniques
9. Feb 28: XML Indexing and Compression + Assignment due
10. March 6: XML Transaction Management + Quiz
11. March 13: XML Streaming Data
12. March 20: SOA and WebDB applications
13. March 27: Big Data Management
14. April 3: Cloud computing: data storage and organization
15. April 10: Class presentations

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Assessments

- Continuous (45%)
 - **Individual assignment (15%, Feb 28, 2012)**
 - **Database design (scenario + XML schema)**
 - **Querying with XML (XPath + XQuery)**
 - Quiz (10%) (Mar 6)
 - Research Development (20%)
 - Research paper proposal (2%, Jan 31, 2012)
 - Team formation and select a paper for the endorsement of your lecturer
 - Presentation (8%, second last/last week)
 - Each group will have 12+3 minutes to present the materials in your chosen paper
 - The evaluations will be done by your peers and myself
 - Report (10% , exam date)
- Examination (55%)
- Bonus points
 - Starting at the second lecture, each class will have short questions (1-2). A bonus point (1% of the module total) for the for the first 3 people who send me the correct answers.
 - Each student may score up to 3 bonus points.

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References

No Textbook !!!

- Web Data Management Practices: Emerging Techniques and Technologies
 - By Athena Vakali, George Pallis; Idea Group Inc (IGI), 2007.
- XML Data Management (Native XML and XML-Enabled Database Systems)
 - Chaudhri, Rashid and Zicari; Addison Wesley, 2003.
- Web Data Management
 - Bhowmick, Madria, WK Ng; Springer, 2004
- Web Database Systems
 - B. Eaglestone & M Ridley; McGraw Hill, 2001.
- Many paper references on WebCT module homepage.
- Plus there are conference papers from
 - VLDB, SIGMOD, ICDE, Available in PolyU Library and WWW.