CSE 515
Multimedia and Web Databases
Fall 2012

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Class homepage
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Catalog data:
Data models for multimedia and Web data; query processing and optimization for inexact retrieval; advanced indexing, clustering, and search techniques.

Textbook:

Goal:
To teach the state of the art in nontraditional database applications, including multimedia and Web, and prepare students for research in database technologies that address the needs of these applications. This course will cover techniques and challenges associate with storage and retrieval of multimedia and Web data and query processing and optimization techniques for inexact data retrieval. The course will stimulate students to reason about the open problems in the area.

Prerequisites:
CSE408 and CSE412, or by permission of instructor.

Major topics:
- A brief overview and comparison of data models: relational, object-oriented, object-relational, and semi-structured (1-2 weeks)
- A brief overview of query processing and optimization (1-2 weeks)
- Features and similarity/distance measures and their properties (1-2 weeks)
- Advances index structures (2 weeks)
- Clustering techniques (2 weeks)
- Query optimization, processing, and ranking
  - Fuzziness (1 week)
  - Ranking (1 week)
- Subjectivity and relevance feedback (1 week)
- Optimization (1 week)
- Web databases: indexing the web (2 weeks)
- Exams (1 week)

Projects:
Projects in this course will consist of cooperative group projects, which provide hands-on access to various aspect of multimedia and web databases. The course project will be divided into three main phases. Group research projects will involve students working in teams in an original research concept.

Grading:
Projects: 40% + Midterm: 20% + Final: 25% + Quizzes:10% + Class participation: 5%

Grading appeals:
Any questions, corrections, or appeals on grades must be done in writing within two days. State the problem and rationale for any change in grade in your appeal. Give the written petition and the material in question to me in person or place it in my mailbox in the department office.