Distributed Database Systems IT 504 (3-0-2-4)

MTech ICT-SS Core

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Objectives:

Collection of correlated databases distributed over a cluster of servers can facilitate scalable query processing. Course includes foundational work, recent developments and trends in scalable database management systems. Modern Data Storage and Query processing for Parallel and distributed databases will be discussed. Students will be working on projects in the domain of modern distributed data storage and query processing during labs. Students will be using various SQL and NoSQL database management tools for implementing their projects.

Coverage of Topics:

Distributed architecture, distributed database design considerations and strategies, fragmentation and allocation, distribution and replication models, scalable query processing and optimization, query cost estimation, distributed transaction management, concurrency control, database interoperability, various data models, SQL and NoSQL databases, RDF and graph databases, static and streaming data, research issues in modern distributed database management.

Resources:

- Research Papers

Evaluation Scheme:

- InSem Exam: 25%
- Assignments and Project: 35%
- Final Exam: 40%

The Assignments and project will be evaluated in the form of lab vivas, presentations, demonstrations, and write-ups.