

## Potential Topics of Term Papers

### I. REQUIREMENTS

Each student is required to finish a term paper. But we have different requirements for undergraduate and graduate students:

- Undergraduate students: Write a 10-pages literature survey on a specific topic based on the reading of at least 10 papers published within the past five years.
- Graduate students: Write a 20-pages term paper, including defining a specific problem, surveying existing work, developing a (better) solution, and evaluating your results.

You can select a topic from the following list and are welcome to propose your own topic (if so, please talk to the instructor before you proceed). The topic should be related to distributed systems in general, such as Group Communications, Peer-to-Peer systems, Overlay Networks, Grid Computing, Object Middleware, etc.

Paper format should conform to the standard format for IEEE transactions. You can use either Latex or WORD. More information please refer: <http://www.ieee.org/organizations/pubs/transactions/stylesheets.htm>

### II. POTENTIAL TOPIC LIST

Topics you may consider include, but are not limited to:

- Resource Discovery and Management
- Security and Policy Management
- Resource Scheduling and Load Balancing
- Synchronization (e.g., clock synchronization, Election Algorithm, mutual exclusion, etc.)
- Consistency and replication
- Reliability and Survivability
- Performance Evaluation
- Anonymity
- Workload characterization
- Multi-cast Fingerprinting
- Anonymous authentication in dynamic group communications
- Data Replication strategies for Grid Computing systems
- Reputation-based resource scheduling for Grid Computing systems
- Middleware-based application design and development (e.g., real-time CORBA, fault-tolerant CORBA, etc.)

### III. DEADLINES

- 1) February 25 (Tuesday, 5:00pm), topic selection due (UG).
- 2) March 13 (Thursday, 5:00pm), 3-pages proposal (problem definition) due (UG).
- 3) March 27 (Thursday, 5:00pm), 5-pages solutions and drafted evaluation plan due (G).
- 4) April 3 (Thursday, 5:00pm), 5-pages summary of the papers you read and important issues you think (U)
- 5) April. 15 (Thursday 5:00pm), experimental results and improved solution due (G).
- 6) April. 25 (Thursday 5:00m), 10-page literature survey (U) and 20-pages full term paper (G) due, including problem definition, solutions, experimental data, conclusion and future works.