



# P2P Networks – Exercise Solution For Exercise # 8

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# Comprehensive Searching (4 P.)

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- How does the system design of a P2P system affect the comprehensiveness of search operations?
  - KaZaA vs Gnutella
  - Kademlia vs Freenet
- How can the search performance be improved?
  - Larger routing table
  - Parallel searching
  - Topological awareness
  - Random walks
  - Replication
- How can random selection of neighboring nodes improve the performance of searching?
  - With random neighbors, requests are served from all peers equally
  - Rather random neighbor selection leads to fair allocation of requests



# Node Degree and Structure (4 P.)

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- How does the node degree affect system performance and cost (messages overhead, routing state information)?
  - Kademlia vs Chord
- Does the structure of the system have an impact on the system?
  - Freenet vs Kademlia



# Anonymity (2 P.)

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- What are the key constraints while designing P2P systems to achieve censorship resistance and anonymity?
  - Neighborhood selection
    - random
  - Delegation
    - „Steepest-ascent hill-climbing“ (greedy, no real routing metric..)
  - Replication
    - As expected



# Next?

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- There will be only programming exercise and its deadline of submission is 01.17.2012
- Kademia protocol is update and could be downloaded from exercise website
- See you on 01.17.2012 in C110