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Distributed Computing Group

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Lab: Community Dynamics in Social Networks

The tendency of people to come together and form groups is inherent in the structure of society. The ways in which such groups take shape and evolve over time is a theme that runs through large parts of social science research. The digital domain has triggered a significant growth in the scale and richness of on-line communities and social media: E-mail, SMS and mobile phones have altered the way we communicate. Newsgroups, file-sharing systems and weblogs, such as *LiveJournal*, produced new forms of collaborative information exchange. Systems such as *klassenfreunde.ch*, *studivz.ch*, or *MySpace* allow us to find old and new friends. Online publication databases, such as *Citeseer*, *Google Scholar*, or *DBLP* reflect the academic world. These systems contain a huge amount of information about relationships among people, a fact that even prompted the NSA (American National Security Agency) to extract user profiles to detect potential terrorists.

Since these networks are publicly accessible, they can be analyzed in the search of answers to various questions, such as: "How is a community structured?", or "How will it develop in the future?". In the context of *DBLP* one could wonder about more specific questions like: "Which research topic will have the highest impact in the next years?", or "In which conferences should one aim to publish in order to have greater chances of getting a *Turing Award*?"

In this lab we want to especially focus on the community represented by *DBLP*[1]. The corresponding data can be downloaded in the form of a single xml file (with more than 700,000 entries) and processed in many ways to enable experiments and facilitate interpretation. Your task will be to come up with ideas concerning features and interesting applications of the *DBLP* network, design and implement algorithms to analyze the available data, test and interpret the results.

Interested? Please contact us for further details!

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[1] http://www.informatik.uni-trier.de/~ley/db/