

**Prof. Roger Wattenhofer**

phone +41 1 632 6312

fax +41 1 632 1172

wattenhofer@tik.ee.ethz.ch

## Master's Thesis "World of PeerCraft!"

Peer-to-peer is a famous paradigm due to its numerous file sharing applications. However, many other applications may benefit from being completely distributed, for instance, the Soccer World Cup may be broadcast on the Internet using p2p technology.

In this thesis, you will work in yet another domain which is likely to become more important in the future, namely *peer-to-peer games*! In contrast to games such as "World of Warcraft", peer-to-peer games should not rely on any central server. Besides the apparent scalability gains, there are exciting challenges when trying to get rid of a centralized component!

Your goal is to tackle these challenges by implementing a real peer-to-peer game. Of course, this game may not incorporate fancy graphics—however, it should be fun to play all the same! As a starting point, we may use the Java implementation of an existing distributed hash table (DHT), e.g., Pastry [1], on which to build our p2p network. As a very simple starting game, imagine the following screen saver: Each user may design a fish, which will be swimming around the screens of the other users in the world, and where it might even be possible to track its own fish on Google Earth.

Interested? Contact us!

### Skills

- Interested in p2p computing, good programming skills, some basic TI background and creativity!

### Contacts

- Thomas Locher: lochert@tik.ee.ethz.ch
- Stefan Schmid: schmiste@tik.ee.ethz.ch
- Roger Wattenhofer: wattenhofer@tik.ee.ethz.ch

## References

- [1] A. Rowstron and P. Druschel. Pastry: Scalable, Decentralized Object Location and Routing for Large-Scale Peer-to-Peer Systems. In *Proc. 18th IFIP/ACM Int. Conference on Distributed Systems Platforms (Middleware)*, 2001.