Master's Project Topic in the Parallel and Distributed Systems Group

**Topic:** Reputation Systems in Online Communities

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**Description:**
The last years have seen a significant increase of the number of business transactions carried out daily over the Internet. Often, users have to decide whether to interact with services or users with whom they have never interacted before. Reputation is widely adopted to build trust among users in online communities where users do not know each other beforehand. The basic idea underlying reputation is that a user's past experience as well as the experience of other users influences his decision whether to engage in an interaction. In particular, reputation provides an indication of services' and users' trustworthiness based on their past behavior. Therefore, a reputation system, which helps managing reputations (e.g., by collecting, distributing and aggregating feedback about services and users behavior), is becoming a fundamental component of the trust and security architecture of any online service or platform. The application and adoption of reputation systems, however, relies on their ability to capture the actual trustworthiness of the parties involved in a transaction as well as to meet the requirements of the application domain.

Several reputation systems have been proposed to assess services and users' trustworthiness. These systems rely on different techniques and methods for the representation, computation and dissemination of reputation values. The goal of this project is to study the building blocks of existing reputation systems along with the different techniques and methods employed. Based on this study, the project requires to analyze the impact of techniques and methods on the accuracy of reputation and the robustness against attacks.

This project has to take further and combine the work on reputation systems in the BitTorrent-based Tribler P2P system [1,2], which has been developed at TU Delft, and the foundational work at TU Eindhoven [3].
References

