

Context Sensitive Trust Management

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1 Research Interest and Background

My primary area of interest is context-aware trust management and I am currently undertaking Ph.D. studies on this topic. I am excited about an opportunity to attend the workshop, meet other participants with common interests, share my knowledge with others.

2 Thesis Achievements to Date

We highlight the focuses of attention within the trust management literature, and reviewed various accounts of situation-aware trust judgment in [7]. In [4] we propose a hierarchical Bayesian reputation algorithm for trust management and a method based on maximum likelihood estimation to bootstrap trust with unfamiliar agents based on stereotypes and context information.

We give a more comprehensive solution for the problem of context-awareness in [3]. This paper presents a context management framework (CMF) that employs case-based reasoning to analyze the correlation between trust information in various situations and help to bootstrap the trust in unanticipated situations using trust information available from similar situations. The case-based reasoning technique is particularly useful for tasks which are experience-intensive, involve plausible (i.e. not sound) reasoning and have incomplete rules to apply.

In the case-based reasoning approach, knowledge is distributed among the four knowledge containers: ontology [6], casebase, similarity measures [5, 1], and solution transformation [3].

In [2] we propose an approach to trust inference called ‘TILLIT’ which is based on combination of trust inferences and user similarity. The similarity is derived from the structure of the trust graph and users’ trust behavior as opposed to other collaborative-filtering based approaches which use ratings of items or user’s profile.

References

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