

## **TMBCoI-SIOT: Trust Management System Based on the Community of Interest for the Social Internet of Things**

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**Abstract :** In this paper, we propose a trust management system based on clustering architecture for the social internet of things called TMBCO-SIOT. The proposed model integrates numerous factors such as direct and indirect trust; transaction factor; precaution factor; and social modeling of trust. The novelty of our approach can be summed up in two aspects. The first aspect concerns the architecture based on the community of interest (CoT) where each community is headed by an administrator (admin). However, the second aspect is the trust management system that tries to prevent On-Off attacks and mitigates dishonest recommendations using the k-means algorithm and guarantor things. The effectiveness of the proposed system is proved by simulation against malicious nodes.

**Keywords :** IoT, trust management system, attacks, trust, dishonest recommendations, K-means algorithm

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