

# SYBILDEFENDER: PROTECT LARGE SOCIAL NETWORKS FROM SYBIL ATTACKS

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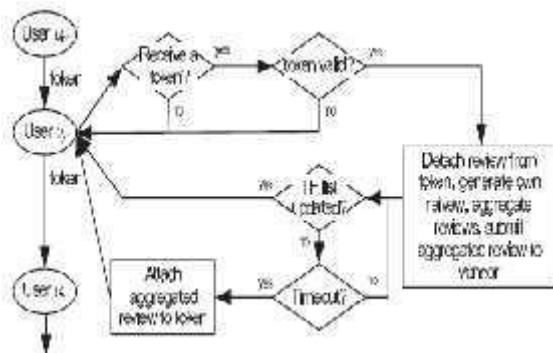
## ABSTRACT

A Trustworthy Service Evaluation (TSE) system to enable users to share service reviews in service-oriented mobile social networks (S-MSNs). Each service provider independently maintains a TSE for itself, which collects and stores users' reviews about its services without requiring any third trusted authority. The service reviews can then be made available to interested users in making wise service selection decisions. We identify three unique service review attacks, i.e., linkability, rejection, and modification attacks, and develop sophisticated security mechanisms for the TSE to deal with these attacks. Specifically, the basic TSE (bTSE) enables users to distributedly and cooperatively submit their reviews in an integrated chain form by using hierarchical and aggregate signature techniques. It restricts the service providers to reject, modify, or delete the reviews. Thus, the integrity and authenticity of reviews are improved. Further, we extend the bTSE to a Sybil-resisted TSE (SrTSE) to enable the detection of two typical sybil attacks. In the SrTSE, if a user generates multiple reviews toward a vendor in a predefined time slot with different pseudonyms, the real identity of that user will be revealed.

Through performance evaluation, we show that the bTSE achieves better performance in terms of submission rate and delay than a service review system that does not adopt user cooperation.

## INTRODUCTION

Service providers (such as restaurants and supermarkets) in S-MSNs supply location-based services to local users and compete for these customers via different advertising strategies, such as the distribution of electronic fliers to passing commuters. In contrast to their worldwide rivals, local service providers have a vested interest in catering to their immediate neighbors, since the vast majority of consumers base their service decisions on a balance between service quality and convenience. It is crucial in S-MSNs that service providers and end users may trust one another. We think of an S-MSN where stationary sellers and nomadic users make spontaneous connections with one another. Each vendor has access to a high-capacity, wireless communication device.



### **Fig:Review generation and submission.EXISTING SYSTEM**

Emerging social networking systems known as service-oriented mobile social networks (S-MSNs) connect users with local service providers through mobile devices like smartphones. In S-MSNs, businesses (such eateries and supermarkets) advertise their location-based services to nearby customers by delivering electronic flyers to mobile devices owned by those customers who are in close proximity to the business. Because most customers choose services based on the comparison of service quality and the distance advantage, local service providers are naturally more interested in servicing customers in their immediate neighborhood than their worldwide rivals..

### **PROPOSED SYSTEM**

In this study, we integrate the TSE with S-MSN infrastructure. We expect our service providers to be responsible for their own TSE upkeep. Meanwhile, we'll assume the TSE's users are cooperating when they utilize it. We plan to investigate potential hostile actions taken by service providers and their customers. In the continuation, service providers are referred to as vendors for clarity. We think of an S-MSN where stationary sellers and nomadic users make spontaneous connections with one another. Each vendor has access to a high-capacity, wireless communication device. The TSE is where the vendor keeps and shares data on their services with their customers.

### **CONCLUSION**

Using methods like hierarchical signatures and aggregate signatures, the system converts unstructured review chains into more formal ones. Distributed user collaboration is at the heart of this change, which strengthens review credibility while drastically limiting companies' editing options.

Additional simulation research based on trace data reveals that good SRs and small SDs are possible with the bTSE.

### **REFERENCE**

In 2011, Proc. IEEEINFOCOM, pp.1647–1655, "Secure Friend Discovery in Mobile Social Networks" was published by W. Dong, V. Dave, L. Qiu, and Y.Zhang

"Secure Friend Discovery in Mobile Social Networks," authored by W. Dong, V. Dave, L. Qiu, and Y.Zhang, was published in 2011 in Proc. IEEEINFOCOM, pages 1647-1655.