Retraction Note to: Mobility Aided Context-Aware Forwarding Approach for Destination-Less OppNets

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Retraction Note to:
Chapter "Mobility Aided Context-Aware Forwarding
Approach for Destination-Less OppNets"
in: M. R. Palattella et al. (Eds.): *Ad-Hoc, Mobile,*
***and Wireless Networks*, LNCS 11803,**
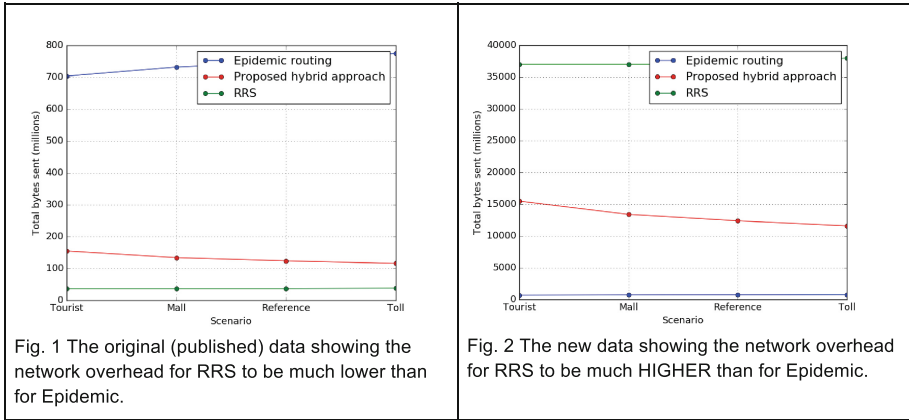https://doi.org/10.1007/978-3-030-31831-4_11

The authors have retracted this conference paper [1]. After publication, the authors discovered a coding error in their simulations of RRS, impacting the results and conclusions of the article. A summary of the re-analyses of the data can be found below. All authors agree with this retraction.

In our paper, we present a new data dissemination approach for opportunistic networks, based on the general idea of combining two existing protocols, which are used in different scenarios. For our study we have taken two existing and well-known protocols: Epidemic and RRS (Randomized Rumor Spreading). Previous evaluations in simulation of these two protocols have shown that they perform very differently in different scenarios: while Epidemic has a very good delivery rate and delivery delay, its overhead is very high. For RRS, it seemed the opposite to be true: very low overhead with not very good delivery rate and delay. These preliminary results laid the basis for our work - we wanted to combine both to combine also their advantages. The results we obtained are described in the paper.

Unfortunately, when continuing our work after the publication of our paper, we discovered a minor error in our simulations of RRS - the statistics of the overhead of RRS was not computed correctly and represented only a fraction of the true one. After re-running all simulations, we realized the assumptions, which laid our research basis, are wrong. RRS had even higher network overhead than Epidemic. The difference between the new and old data is shown below in Fig. 1.

Fig. 1 The original (published) data showing the network overhead for RRS to be much lower than for Epidemic.

Fig. 2 The new data showing the network overhead for RRS to be much HIGHER than for Epidemic.

The described mistake had unfortunately an impact only on the network overhead, thus leaving the results for delivery delay and rate the same. Thus, our hybrid protocol does not perform any better than any of the two original protocols.

However, we would like to stress at this point, that we still believe our general approach of combining two protocols with different performance is a valuable direction. However, we would need to select two other protocols for this, since RRS and Epidemic are not a good match.

We apologize once again to you and to the scientific community for this mistake.

[1] Kuppusamy, V., Udugama, A., Förster, A.: Mobility aided context-aware forwarding approach for destination-less oppNets. In: Palattella, M.R., Scanzio, S., Coleri Ergen, S. (eds.) ADHOC-NOW 2019. LNCS, vol. 11803, pp. 153–166. Springer, Cham (2019). https://doi.org/10.1007/978-3-030-31831-4_11