Coupons: A Multilevel Incentive Scheme for Information Dissemination in Mobile Networks
Familiarity: Some knowledge. (I am marginally aware of research in this topic)
Recommendation: Likely accept. (Top 15% but not top 5%, significant contribution)
This paper presents a scheme for disseminating information in an opportunistic manner. Coupons shares characteristics of as-hoc solutions as well as DTN. It appears that it leans more to the store and forward DTN side of things since nodes store coupons of interest and forward them to other interested nodes. In addition a case is made for the originator of the coupon to provide a financial incentive for users to forward coupons. Coupons are essentially a list of unique ID's appended to a coupon. A user accepts the coupon, appends its id to the coupon and forwards it to others who desire the coupon. If a user redeems the coupon the store offers financial incentive to all of the user ids on the list. The goal of this process is to make more efficient the dissemination of information (the coupons) to interested users. Efficiency is gained over epidemic methods of information dissemination by not forwarding the coupon to uninterested nodes. I am not familiar enough with this area of research to determine if this scheme is novel. The balance of the paper deals with efficiency by reducing redundancy, i.e. a node transmits a coupon to a node that already has the coupon.
I have the following reservations about the paper:
- Glomosim is rather old and has known shortcomings with its PHY layer. Was this state of the art at publication time? Were these shortcomings considered?
- In the evaluation section, why were node densities of 0.65, 3, and 9 chosen? What about 2, or 6, or 12?
- The ack based scheme stabilizes at 1 message every 10 minutes. Is this good? Why? The lines representing the other schemes are clearly higher, but are they bad? Is the adaptivity of the ack based scheme causing the reduced overhead? Why the peak in graph 4c?

The paper has the following strengths:
- In the evaluation the authors considered whether or not the user is in the active state to compensate for the fact that users will not always want to retransmit coupons even if they can gain from doing so.
- Although the authors mention that the results are similar for random waypoint and other mobility schemes the authors present a series of experiments with a mobility scheme where users travel from one area to another.
- The authors consider both cheating, and attempts to disrupt the system.
- The authors did a testbed evaluation in order to validate that their simulations matched real world conditions.

MIPMANET – Mobile IP for Mobile Ad Hoc Networks
Familiarity: Expert. (I conduct active research work in this topic)
Recommendation: Likely accept. (Top 15% but not top 5%, significant contribution)
MIPMANET makes use of Mobile IP in order to route packets to ad hoc networks. MIPMANET expects for at least one node in the MANET to act as a foreign agent thus providing a routable network prefix for the MANET.

I have the following reservations about the paper:
- NS2 is very dated but I suppose it was state of the art in 2000.
- Nodes in the MANET initiate route discovery to send packets. If a destination is not discovered in the MANET then a default route to the FA is used. This will take time for the route discovery to fail. Also, if this route breaks it will not be discovered until 3 hello messages are missed from the FA. Then the node will search for a new FA. It is not clear how this route is either discovered or maintained. Is the ad-hoc protocol responsible for this? AODV does not have a mechanism for this. DSR route caches could be used for this purpose but the authors are not clear on this topic. None of this seems necessary. The FA knows who the visiting nodes are because they have registered with it. When it receives a RREQ it can answer with a RREP and forward the packets to their destination. This is a big reservation.
- A unicast version of this protocol is introduced in section V simulations. This would be more appropriately described in the section which describes the protocol.

The paper has the following strengths:
- I'm not sure if this is a strength because it causes the second reservation

above. Because default routes to registered nodes are mentained the FA can unicast periodic hello messages to registered nodes avoiding the flood of a RREQ. However this would provide some reduction of overhead.

- In addition to losing 3 hellos from an FA a node can detect a lost FA by sending packets to the FA and receiving an error. The RREP wait time for AODV was set to 1 second to reduce the time to detect a lost FA.