Homework Assignment 02

January 11, 2010

A. Garyfalos and K. Almeroth, "Coupons: A Multilevel Incentive Scheme for Information Dissemination in Mobile Networks", IEEE Transactions on Mobile Computing, vol. 7, num. 6, pp. 792-804, June 2008

Familiarity: Rate your familiarity with the topic of the paper.
Novice (I am not familiar with research work in this area, and serve as an outsider reviewer)

Recommendation: Your overall rating
Likely accept (top 15% but not top 5%, significant contribution)

Strengths: What are the major reasons to accept the paper? [Be brief.]

This paper provides a soltion for data dissemination in wireless networks. Although the method itself had already been popularized earlier by the same team of researchers, the paper is significant in few other aspects. First, the authors provide more Broadcast Frequency Algorithms, to implement the Coupons consept with, thus adding a novel solution to a certain problem. Putting these in simulation environment allows for deeper examination of the cherecteristics and quality of the proposed solution. Second, besides the simulation-based results, authors provide new implementation-based evaluation of the proposed solution. This way they are able to further draw conclusions and also "tune" the proposed consept to make it more effective.

The paper is relatively coherently written, which makes the problem and the proposed solution, susceptible even to non-specialists in this area of research.

Weaknesses: What are the major reasons NOT to accept the paper? [Be brief.]

Lack of definitions on the propper places. Sometimes a definition is either not given the first time when a term is used, (but somewhere further in the text) or no explicit definition is given, so the reader must guess from the context.

Detailed Comments: Please provide detailed comments that will help the TPC assess the paper and help provide feedback to the authors.

1. In the third part the term "store" is established as the node which initiates the coupon spreading. The author could give an explicit definition of this term prior to start using it, for the sake of clearness.

2. In section 3.2 - the introduction to the Broadcast Frequency Algorithms - the authors can elaborate a bit further on the consept of sleeping periods. Why is this needed and how does it help?

3. In section 4.1 with regards to the mobility models, the authors state: 'Different models gave slightly different results but this is mainly due to the different average node density that was produces from these models.' Is there a way that these models can produce similar density? Are the results going to be similar then?

4. Also in section 4.1 with regards to coupon levels: what is coupon ID list, what is a free slot in the coupon ID list and how does the presence of such free slot would stimulate the broadcasting?

A. Sharma and E. Belding, "FreeMAC: Framework for Multi-Channel MAC Development on 802.11 Hardware"

Familiarity: Rate your familiarity with the topic of the paper.
Novice (I am not familiar with research work in this area, and serve as an outsider reviewer)

*Recommendation: Your overall rating
Likely accept (top 15% but not top 5%, significant contribution)

Strengths: What are the major reasons to accept the paper? [Be brief.]

The authors of this paper did very good job in motivating the need of a framework for development and implementation of multi-channel MAC protocols. To my knowledge, there are no prior attempts for elaboration of such environment, thus this work can be regarded as one that reveals a novel area of research.

Along with defining the problem authors propose a solution to it - the FreeMAC framework.

A simple multi-channel TDMA MAC protocol is finally implemented on the developed platform. The results indicate that the framework is capable to correctly handle a protocol that is implemented on top of it.

Weaknesses: What are the major reasons NOT to accept the paper? [Be brief.]

The protocol implemented does not address all the features of the platform that are stated in the **Design** section. Thus future work on implementation of more complicated protocols is needed, so all the properties of the system could be tested.

Detailed Comments: Please provide detailed comments that will help the

TPC assess the paper and help provide feedback to the authors.

This paper provides a thorough motivation of a novel research problem and along with it gives an idea of how this problem can be approached.

In the introductory part there is an explaination for why simulations can not provide objective enough evaluation of MAC protocols. This demands the development of a real platform for MAC protocols deployment. Following in the paper there is a brief explaination of the proposed solution, which is further extended in the Design section. The authors conclude their paper, stating results from implementation of a multi-channel MAC protocol on the proposed framework.

For the sake of further evaluation of the applicability of FreeMAC, more complicated protocols could be implemented on top of it.