



Seminar Series Comp. Sci. Dept.



Malicious Transactions in Mobile Database Systems

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Sep 14th Tuesday, 12:30 to 1:30pm

Venue - CS Room 216

Abstract - Securing the database from the effects of malicious activities and maintaining data consistency have never been easy. This task becomes significantly more complex in Mobile Database Systems (MDS) because of the unique demands it imposes on data processing activity. The characteristics of a malicious transaction have been discussed in many papers; however, a formal definition seems to be missing. Such definition is very useful, rather essential to investigate its interaction with MDS and to develop schemes for its management. In this seminar, we ponder over and discuss a few things about malicious transactions and its interactions with MDS. In particular, we first try to develop a formal definition of malicious transaction, explain our reference architecture of a mobile database system, define the structure and processing of mobile transactions, and investigate interaction of malicious transactions with mobile database systems. Finally, we present an outline of a scheme, which we call "Location Signature", to identify the attack of malicious transactions on mobile database systems. The work which we present here is still on going. Therefore, one of our aims here is to gather your useful comments and suggestions to revise, improve, and possibly modify our approach for the management of mobile malicious transactions.

Brief Bio - Dr. Vijay Kumar is a professor of Computer Science at the University of Missouri-Kansas City. His research activities, at present, are bounded by (a) Data Dissemination through Wireless Channels, (b) Mobile Database Systems (MDS), (c) Sensor Technology, (d) System Security and Trust management, (e) Web Technology, and (f) Bioinformatics. A number of these projects are funded by grants from National Science Foundation, HP labs, Sprint, and St Lukes Hospital research Foundations. He has 70+ refereed publications in ACM TODS, IEEE TKDE, IEEE TMC, ACM Communications, and others. He has written four books which have been published by John Wiley, Prentice Hall, and Kluwer.