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SAPON TANACHAIWIWAT, Project Manager

Sapon Tanachaiwiwat is a Project Manager at Innvoative Scheduling. He holds a B.S. in Electrical Engineering from the Mahidol University, Bangkok; a M.S. in Electrical Engineering, and a Ph.D. in Computer Engineering, both from the University of Southern California. His doctoral dissertation focuses on the analysis of worm propagation and interaction in wired and wireless computer networks. He has participated in the ACQUIRE project (Active Query in Wireless Sensor Networks) funded by the National Science Foundation. His main research interests are in modeling, designing, and implementing algorithms and protocols for large-scale simulation and real-time systems.

Dr. Tanachaiwiwat is currently involved in building a decision support system for the routing of locomotives to shops for quarterly maintenances. This project involves developing and implementing algorithms for real-time routing of locomotives to shops so that locomotives reach shops just-in-time and are consistent with the shop capacities. His responsibilities include designing and implementing C++ classes, Oracle, database design, database migration, data verification, and creation of Oracle stored procedures and views for the development server. He also has been developing a decision support system for truckline network planning system. In this project, he is responsible for building and maintatining .NET user interface and C# shipment routing modules. He is also involved in designing, maintaining and fine-tuning database schema in SQL Server for optimal performance. In the past, he was also a part of locomotive planning optimizer project where he designed and implemented a multi-threaded server to interact with clients' requests from an external server over TCP/IP network.



PROFESSIONAL EXPERTISE

- Proficient in C/C++/embedded C++ and object-oriented programming and UML design
- Considerable experience in Web programming including HTML, JavaScript, XML, Cold Fusion
- In-depth understanding of systems and network security and underlying network protocols
- Expertise in Oracle stored procedures, views, and functions (PL/SQL)
- Mathematical modeling of network worm/virus propagation

SELECTED PAPERS

- “On the Performance Evaluation of Encounter-based Worm Interactions Based on Node Characteristics,” S. Tanachaiwiwat, A. Helmy, *ACM Mobicom*, 2007.
- “Computer Worm Ecology in Encounter-based Networks,” S. Tanachaiwiwat, A. Helmy, *IEEE Broadnets*, 2007.
- “Modeling and Analysis of Worm Interactions (War of the Worms),” S. Tanachaiwiwat, A. Helmy, *IEEE Broadnets*, 2007.

SELECTED PROJECTS

- A decision support system for routing of locomotives to shops (LSR)
- A decision support system for Truckline Network Planning System (TNPS)
- A decision support system for locomotive planning optimizer (ILPO)
- Active query in wireless sensor networks(ACQUIRE)