Mobility in Public Indoor Urban Spaces: An Asian Perspective

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I. ABSTRACT

Like Singapore, the daily lifestyles of consumers in many other large Asian cities often revolves around densely populated, largely-indoor, public spaces, such as malls, train stations and office/college campuses. This talk will first introduce the LiveLabs Platform, a unique large-scale mobile-based services experimentation testbed being deployed at multiple places in Singapore, including a university campus, shopping malls, an airport terminal and a leisure resort. I will then discuss the unique challenges and opportunities (both technical and business) that arise from the mobility of hundreds, and even thousands, of individuals concurrently occupying these indoor spaces. These challenges and opportunities include a) the need to support real-time, accurate and continuous indoor location tracking, b) the possibility of identifying the dynamics of human queues and c) the ability to reduce the energy overheads of large-scale mobile sensing & analytics.

II. BIOGRAPHY

Archan Misra is an Associate Professor of Information Systems at Singapore Management University (SMU), and a Director of the LiveLabs Research Center at SMU. His current research interests are in the areas of pervasive computing & mobile systems, with specific focus on energy-efficient mobile sensing & analytics, data mining for semantic activity recognition and advanced indoor localization. As part of his previous industry career with IBM Research and Telcordia Technologies, he has worked and extensively in the areas of wireless networks, pervasive computing and mobile data management and is a co-author on papers that received the Best Paper awards in EUC 2008, ACM WOWMOM 2002 and IEEE MILCOM 2001. He is presently an Editor of the IEEE Transactions on Mobile Computing and the Elsevier Journal of Pervasive and Mobile Computing and chaired the IEEE Computer Society's Technical Committee on Computer Communications (TCCC) from 2005-2007. Archan received his Ph.D. in Electrical and Computer Engineering from the University of Maryland at College Park, and his B.Tech in Electronics and Communication Engineering from IIT Kharagpur, India.