Keynote Talk at the WristSense 2015 Workshop
The “E Pluribus Unum” Agenda for Wearables

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I. KEYNOTE TALK

The talk will expound on the vision where smart-watches (and other wrist-worn devices) are not just isolated sensing platforms, but part of a sensing ecosystem that couples together multiple personal devices. While an individual smartwatch can undoubtedly capture certain gestural activities and health vitals, a far richer set of applications can be enabled by performing coordinated sensing across a distributed set of one or more wrist-worn devices and a smartphone. I will describe ongoing work that involves such coordinated sensing for both (a) newer, gestural-based interactive and immersive interfaces and (b) improved unobtrusive recognition of daily activities, and the associated challenges for three key performance metrics: energy, latency and accuracy. I will provide specific examples on how we are using (i) novel distributed sensor data pipelines to enable real-time, low-latency recognition of gestures, and (ii) smartphone and infrastructural sensing as effective contextual triggers for continuous capture of commonplace urban lifestyle activities.

II. BIOGRAPHY

Archan Misra [1] is an Associate Professor of Information Systems at Singapore Management University (SMU), as well as a Director of the LiveLabs research center, which operates a large-scale testbed for context sensing and context-based experimentation in urban public venues. Over the past 15 years (including extended stints at IBM Research and Telcordia Technologies), he has worked extensively in the areas of mobile systems, wireless networking and pervasive computing. 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 holds a Ph.D. in Electrical and Computer Engineering from the University of Maryland at College Park.

REFERENCES