THE UNIVERSITY OF TEXAS AT AUSTIN
UT ECE
ELECTRICAL & COMPUTER ENGINEERING

INTEGRATED CIRCUITS AND SYSTEMS GROUP (ICSG)

THE ICS SEMINAR SERIES

Dr. Thomas Schmid
Dept. of Electrical Engineering and Computer Science,
University of Michigan, Ann Arbor

Hijacking Power and Bandwidth from the Mobile Phone's Audio Interface

This talk will present our recent work on enabling pervasive personal sensing, focusing on HiJack, a system for stealing power and bandwidth from the mobile phone's audio jack. HiJack enables a new tier of small and cheap phone-centric sensor peripherals that support plug-and-play operation. More broadly, we envision the mobile phone will become a portal for perpetually-powered and physically-embedded sensors. Our harvester delivers 7.4~mW to a load with 47% efficiency using components that cost $2.34 in 10K volume. Integrating the pieces, this talk will present a combined system for delivering data and power over audio, and demonstrate its use by turning an iPhone into an inexpensive oscilloscope.

Biography:

Thomas Schmid is currently a CI Fellows Post Doctoral Scholar at the University of Michigan, Ann Arbor. He received his PhD in Electrical Engineering from the University of California, Los Angeles in 2009, and was selected to receive the UCLA Electrical Engineering Department's 2009-2010 Outstanding Doctor of Philosophy Award for his dissertation. His research interests involve the hardware-software boundary and its impact on energy consumption, including software radios, large scale sensing system architectures, and networking, with a focus on wireless embedded systems.

Tuesday, Aug. 17, 2010, ACES 2.402, 5:00-6:00pm
http://icsg.ece.utexas.edu/ics-seminar/