

Tutorial No. 3 (INDICON 2008)

Generation Changes in Mobile Phones: Evolving Standards and User Experience

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Duration: Half day (2:00 PM to 5:30 PM), 11 Dec 2008

Venue: L12

Abstract:

The tutorial will focus on the evolution of mobile phones.

The mobile data prevalence along with service and device convergence is leading to mobile phone as “all in one” device. While the basic requirements of a mobile phone as a “phone” are being extended through the generational changes in the wireless standards (2G to 2.5G to 3G to LTE and possibly leading to 4G), today’s mobile phone has also been used as an MP3 player, a camera, a FM receiver, a GPS device etc. A whole range of functionalities are being conceived to be part of the mobile phone. Clearly, a seemingly simple device like “mobile phone” embeds much more complexity today. User experience is a key for such mobile phone, depending upon the specific application the user uses at a time. This poses several design challenges at the system level.

The tutorial will address the following:

- (i) The evolution in wireless standards
- (ii) Mobile phone architecture and different building blocks
- (iii) Transformation of the mobile phone into an “all in one” device and the challenges this poses at system design level
- (iv) User experience aspects and how the new generation phones are designed to enhance the user experience
- (v) Towards effective utilization of battery power which is a key constraint for mobile handheld devices
- (vi) Current state of art in the industry products

Audience Profile: Engineers from Academia/Industry/Research institutions with basic understanding of digital communications and wireless networks.



Dr. Manoj Choudhary (Texas Instruments, India)

Biography:

Manoj Choudhary received his Ph.D from the department of Electrical Engineering at IIT Kanpur. Currently, he is working with Texas Instruments at Bangalore (India) as Development Unit Manager in the area of modem software development for mobile handsets. Prior to joining TI, he worked with Samsung Electronics as Senior Manager focusing on research and standardization of emerging wireless technologies such as Ultra Wide Band and 3G-WLAN interworking. He has been one of the authors of Ultra Wide Band MAC specification at the WiMedia Alliance (www.wimedia.org) and also served as co-chair of Technical Steering Committee for the WiMedia Alliance. He has delivered several talks and tutorials in national/international conferences and industry forums. Manoj and his team members have filed several patent applications in US, Korea, European Union and India. He is also co-author of a book “Ultra Wideband Demystified” to be published by River Publishers, Denmark.