

Symposium Program Rundown

<< Time >>	<< Presentation >>
9:00 am - 9:30 am	Registration
9:30 am - 9:40 am	Welcome Remark Mr. Duncan Lau, Chairman Hong Kong Wireless Technology Industry Association
9:40 am - 10:00 am	Keynote Speech Mr. Anthony Wong, Commissioner of Innovation and Technology Commission, HKSAR Government
10:00 am - 10:15 am	Presentation of Souvenirs & Photo Opportunities
10:15 am - 11:00 am	The Design and Implementation of a Mobile Location Estimation System Dr. Joseph K. Ng, Associate Professor Hong Kong Baptist University Dr. Karl R.P.H. Leung, Principal Lecturer Hong Kong Institute of Vocational Education
11:00 am - 11:15 am	Coffee Break
11:15 am - 12:00 pm	What Stops LBS to Take-off - An Operator's View Mr. K L Ho, General Manager - Mobile Applications HK CSL Limited
12:00 pm - 12:45 pm	Predictive Probability Models: a Unified Approach to Mobile Device Positioning Professor Henry Tirri Helsinki Institute for Information Technology, University of Helsinki & University of California, Berkeley
12:45 pm - 2:00 pm	Lunch
2:00 pm - 2:45 pm	Locationing Technology using Wi-Fi and its Relevant Location Based Application Mr. Jarmo Ikonen, Sales Director Ekahau Inc.
2:45 pm - 3:30 pm	Location Base Application Service Solution in China Mr. Wei Hong Ying, Chief Technology Officer Allfast SCI. & Tech. Engineering
3:30 pm - 3:45 pm	Coffee Break
3:45 pm - 4:30 pm	gpsOne™ - Overview & Current Market Deployment Mr. Johnson Wen, Director, Business Development Qualcomm International Inc.
4:30 pm - 5:15 pm	Application of Location Based Technology in Human Services Mr. John Fung, IT & Development Chief Officer HK Council of Social Services

Language: English

International Symposium on Location-Based Systems

7 October 2003 (Tue)
Rm. 301B, New Wing,
Hong Kong Convention and
Exhibition Centre, Wanchai, Hong Kong

Organizer



Co-organizer



Supporting Organizations



Abstract

The International Symposium on Location-Based Systems aims to provide a forum for academics, mobile network operators, equipment vendors and application developers in different countries to share knowledge, experience and market trends in location positioning technologies and location-based applications.

The market potential for location-based services is huge. Estimates from industry analysts value wireless location-based services at US\$30 billion worldwide by 2004. The thriving wireless technologies in the recent years offer enormous opportunities for location specific information provision.

With mobile network including 2G & 3G, Global Positioning System (GPS) and Wireless LAN environment, people can use mobile devices such as cellular phones and PDAs to locate themselves and tap into new applications such as mobile yellow pages, enhanced safety calling and roadside assistance, location sensitive billing, personal navigation and tracking services. Enterprise solutions such as fleet management, asset tracking, mobile marketing, etc. can undoubtedly offer benefits and values to different industries.

Target Audience

Application developers, network operators, device manufacturers, infrastructure vendors, government officials, engineers, manufacturers, academics, financial specialists, who are involved in business and technical development of location-based services.



Mr. Anthony Wong
Commissioner for Innovation and Technology
Innovation and Technology Commission

I congratulate the Hong Kong Wireless Technology Industry Association on its successful organization of the International Symposium on Location-Based Systems.

Hong Kong is a city with one of the highest mobile penetration rates in the world. With such a large user base, our industry is keen to explore new and innovative mobile applications and develop competitive value added products. Location-based technology is one of the areas which could help open a whole new dimension of novel applications for the telecommunications industry. This symposium offers a valuable opportunity for interested parties in this technology to get together and move Hong Kong forward as one of the leading places in the region for advanced mobile application development.

May I extend my best wishes to all participants in the Symposium and I wish the Hong Kong Wireless Technology Industry Association every success in its endeavors.

Ir. Dr. Alex Chan
President
Hong Kong Institution of Engineers



I am most delighted to be an Honorary Advisor for the Location - Based Services Symposium. In today's fast changing environment, the ability to keep track of your business operation and customers' needs is the key to success. Let me congratulate you and your Organizing Committee in launching this symposium on location - based services, a very timely topic to suit the continuous growth of the mobile communication industry.

May I also appeal to the mobile communication stakeholders engaged in providing and using the LBS technology to participate in this unique symposium. Your involvements would not only make this symposium a big success but also signify to other competitors that Hong Kong is the leader of mobile communication in the world, both for private and in business.

May I wish you and the participants an enjoyable and rewarding symposium.



Mrs. Carrie Willis,
Executive Director
Vocational Training Council

On behalf of the Vocational Training Council, I would like to extend our warm congratulation to the Organizing Committee on the occasion of its International Symposium on Location-Based Systems.

The Symposium is instrumental in promoting the development of an advanced mobile location estimation system based on existing infrastructure. This will bring substantial benefit to fleet management and other location-based applications.

The Vocational Training Council is very honored to be one of the organizations supporting the Organizing Committee's endeavors. As always, we shall spare no effort, through our education and training programmes, in helping Hong Kong to thrive in the knowledge-based economy.

May I wish the Symposium a great success and the Institution a prosperous future.

Mr. Duncan Lau
Chairman

Hong Kong Wireless Technology Industry Association



The development of mobile data services has been very rapid in the past year. More and more people are using mobile devices to get connected with latest information everywhere through 2.5G, 3G, GPS and WLAN environment. Besides, people can also locate themselves with the mobile networks and more business opportunities have been generated based on this thriving wireless technology. Many analysts have foreseen that the market for location-based services will become huge in the near future.

In view of this, Hong Kong Wireless Technology Industry Association has partnered with other renowned associations, organizations and universities to co-organize the "International Symposium on Location-Based Systems" so that all the participants can share knowledge, experiences and market trends in location positioning technologies and location-based applications

Furthermore, I would like to express my greatest thanks to the Organizing Committee to organize this meaningful industry event.



Mr. K. K. Yeung
Executive Director
Hong Kong Productivity Council

In today's communications market, instant access to information has become a major customer demand. With applications ranging from mobile yellow pages and roadside assistance to personal navigation and tracking, location-based wireless service is fast gaining recognition in importance and market potential. This is indeed the case for Hong Kong, given our large mobile phone user base and the density of high buildings within the city.

By providing an international platform for local mobile network operators, equipment vendors and application developers, the International Symposium on Location Based Systems serves as a most timely driving force spearheading Hong Kong's wireless industry in the right direction to capture this highly lucrative market.

The Hong Kong Productivity Council (HKPC) is pleased to be a co-organizer of the Symposium. Over the years, HKPC has collaborated closely with the Hong Kong Wireless Technology Industry Association (WTIA) on numerous projects, including the ongoing ITF project to develop an accurate low-cost Mobile Location Estimation System (MLES) for fleet management applications. We look forward to working with the WTIA on this and many other exciting projects for the advancement of Hong Kong's wireless technology industry.

I wish the Symposium every success.

Mr. M H Au
Director-General of Telecommunications
Office of the Telecommunications Authority



"Mobile data services, including LBS, are taking off in Hong Kong and will bring opportunities to all. The organization of the LBS Symposium is most timely to ensure Hong Kong always stays at the forefront in the application of mobile communications technologies.



Prof. Ng Ching Fai
President & Vice-Chancellor
Hong Kong Baptist University

It gives me great pleasure to send my warmest congratulations to the International Symposium on Location-Based Systems.

In today's knowledge-based economy, successful development depends very much on talented people and technological innovation. The International Symposium on Location-Based System provides a valuable opportunity for people to share their enormous depth of knowledge and first hand experience in the field of LBS, which could not be more appropriate or timely.

I am confident that the Symposium will address the challenges to the benefit of all its participants, and will turn out to be another most inspiring and fruitful event for all parties involved.

Ir. Dr. Raymond Ho Chung Tai
Legislative Councilor (Engineering Functional Constituency)



I am delighted to become one of the Honorary Advisors for the Location-Based Services Symposium when invited by its Organizing Committee.

It is very timely for the Organizing committee to put together this event given the rapid development of the mobile network and the increasing application of the thriving wireless technologies. The Symposium focusing on the Location-Based Services will provide the participants with the first hand information in the field of mobile communications and a platform to exchange knowledge and experience.

With an impressive line-up of distinguished speakers, I am certain that the Symposium will be a highly rewarding event for all the participants.



Mr. Sin Chung Kai
Legislative Councilor (Information Technology
Functional Constituency)

With the pervasiveness of wireless devices, Location Based Services (LBS) technology will be the catalyst for moving the wireless internet into the everyday life of wireless users. In the wake of huge upheaval in telecom industry, the LBS Symposium is a unique opportunity for academics and members of the trade to meet and candidly discuss significant issues in the development of LBS. I highly encourage those who are interested in location positioning technologies and location-based applications to participate this event.



Dr. Joseph K. Ng,

**Associate Professor
Hong Kong Baptist University**

and



Dr. Karl R.P.H. Leung

**Principal Lecturer
Hong Kong Institute of Vocational Education**

Presentation Topic: The Design and Implementation of a Mobile Location Estimation System

In this talk, we are going to talk about the design and the recent development of a Mobile Location Estimation System (MLES). This project is funded by the Innovation and Technology Commission under the Innovation and Technology Fund. This project is concerned with the development of an advanced location estimation system based on the existing mobile phone infrastructure for potential applications in fleet management and other location based applications. The talk is divided into two parts: 1) Location estimation algorithms; and 2) The design and implementation of a LIF compliant API for the development of location based applications.

Mr. K L Ho

**General Manager - Mobile Applications
Hong Kong CSL Limited**



Presentation Topic: What stops LBS to take off - An Operator's View

Mobile based LBS has been a hot topic in the industry for some years and there are various service concepts, technology trials, pilot services, as well as early commercial deployment of such services in this few year. But given the sustained high level of interest from the industry as well as the tremendous recourse being poured into this area, it is very unfortunately that none of the LBS deployment gain wide market acceptance so far. So what wrong with LBS and what is stopping it from taking off !?

This presentation attempts to address the question from an operator's perspective and hope it can stimulate some insights to where is the way-out.



Professor Henry Tirri

**Helsinki Institute for Information Technology
University of Helsinki & University of California, Berkeley**

Presentation Topic: Predictive Probability Models: a unified approach to mobile device positioning

Some location estimation methods, such as the GPS satellite navigation system, require nonstandard features either in the mobile terminal or the network. On the other hand solutions based on generic technologies not intended for location estimation purposes, such as the cell-ID

method in GSM/GPRS cellular networks, are usually problematic due to their inadequate location estimation accuracy. In order to enable accurate location estimation when only inaccurate measurements are available, one can use predictive probability models - an approach that can also be integrated with the prevailing geometric approaches. In particular, the same general predictive probability model approach can be used for various network technologies from GSM/GPRS to WLAN. In this talk we will discuss the theoretical issues related to using predictive models for positioning, the pros and cons of this unifying approach and present some empirical results with real life measurements.

Mr. Jarmo Ikonen

**Sales Director
Ekahau Inc.**



Presentation Topic: Locating Technology using Wi-Fi and its Relevant Location Based Applications

Numerous wireless carriers and companies have begun installing Wi-Fi transceivers in hotels, cafes, and other commercial buildings to deliver high-speed Internet access to mobile users. This expanding infrastructure can also be used to locate people indoors. Location-based technology is one of the hottest things in wireless at the moment. It offers new services to customers and new revenue streams to carriers, and could save lives in the process. The winning services will give people information that improves lives and saves time.

Accuracy, as everyone knows, is the most important element of location-based technology -especially indoors, where walls and other obstructions impact signals. This is especially crucial in a corporate environment where the level of accuracy ultimately determines the viability of the location based applications that leverage the underlying technology.

Finnish company Ekahau (www.ekahau.com) makes software that can track users of Wi-Fi-enabled personal digital assistants and laptops through buildings such as shops or museums.



Mr. Wei Hong Ying

**Chief Technology Officer
Wuhan Allfast SCI. & Tech. Engineering Co. Ltd.**

Presentation Topic: Location base application service solution in China

Since 2001 China telecom operators such as China Mobile, China Unicom had tested their location service (LCS) for a long time. And now, 3 years goes by, many provinces in china had began to launch this service. So, location base value added applications became a hotspot with huge market potential. However, so many kinds of different LCS's implement technology and protocol interface, the need for privacy protection and the absence of the basic powerful GIS service all embarrassed the development of LBS application.

Allfast, a company held copyright GIS technology itself, had focused on LBS application development and marketing for 3 years. From GPS base application to Cell phone base application, LBS products of Allfast worked on PDA, Handset and PC etc, and relate to a lot of wireless technology such as GPRS/GSM, SMS/GSM, CDMA, PHS, KJAVA, WindowsCE etc. By cooperating with primary LCS platform provider like Motorola, Ericsson, Nokia and primary telecom operator such as China Mobile, China Unicom etc, Allfast's service had covered 9 Chinese provinces, Allfast is now become one of the three biggest LBS application service providers of China. The LBS application service platform of Allfast provide a completely toolset for quickly developing, deploy, and managing the LBS value added application, it shot all the problem above, and the practice shows it was a utility solution for LBS application service.



Mr. Johnson Wen

**Director, Business Development
Qualcomm International Inc.**

Presentation Topic: gpsOne™ - The Best Solution for LBS

Qualcomm's gpsOne™ technology provides industry leading precision, fast response and high availability to subscribers in today's location based service market. Using patented A-GPS (Assisted Global Positioning System) and AFLT (Advanced Forward Link Trilateration) technologies, gpsOne™ system locates units in a wide range of challenging environments where normal GPS will not work, including inside buildings, moving vehicles, under heavy foliage and in urban street canyons. The gpsOne™ solution supports all wireless standards and is embedded in the Qualcomm's CDMA (1X/IS-95) and WCDMA (UMTS)/GSM chipsets. There are over 15 million gpsOne™ -enabled devices in commercial use in Japan, South Korea, and the United States. gpsOne™ is the location solution of choice for CDMA.

Mr. John Fung

**Chief Officer, Information Technology & Development
Hong Kong Council of Social Services**



Presentation Topic: Application of Location Based Technology in Human Services

Due to its highly personalised nature, and location-sensitive characteristics, LBT has been growingly common in the commercial sector. Its popularity is indeed closely related to the rapid advancement of mobile computing capability. The ever-increasing penetration rate of mobile phones especially in the greater China region also provides a promising future for LBT application.

Location Based Technology offers huge opportunities for Human Services to improve the quality of life of disadvantaged groups. This presentation will discuss those opportunities in different target groups such as the senior persons, the mentally retarded, the visually impaired and the young persons on probation orders.

Successful implementation of such LBT services depends on a range of factors. While a general account of those factors will be given, it is argued that non-technical factors are equally, if not more important than, technical factors. LBT services would only bring benefits to the most needy people when scientists, user groups, human service professionals and the community at large could work closer with each other right from the beginning phase of ideas conception. A concerted effort of the private and public sector is also required in materialising LBT services in a sustainable manner.