Foreword

Mobile handheld devices such as smartphones have become extremely popular and are now an integral part of our daily activities. People carry them everywhere and expect to be able to access a wide range of handheld applications whenever they wish. A major part of the applications is related to mobile commerce, which is defined as the exchange or buying and selling of commodities, services, or information on the Internet through the use of mobile handheld devices. Mobile commerce includes various mobile applications such as location-based services, mobile advertisements, mobile entertainments, mobile inventory and tracking, mobile payments and banking, just to name a few. For about a decade, mobile commerce has become the hottest new trend in business transactions.

- The future of mobile commerce is bright, as shown by the following predictions:
  - o Even with the economic downturn in 2008, the smartphone sales were still strong. In the fourth quarter of 2008, worldwide sales of smartphones reached 38.1 million units, an increase of 3.7 percent compared to the fourth quarter of 2007 (Megna, 2009).
  - o The sales of mobile content and services will reach to $150 billion by 2011 according to FierceMarkets, Inc. (2007). Among them:
  - o SMS (short message service) and related messaging applications will generate $93 billion globally, accounting for more than half of projected mobile data revenues, multimedia services including music, video games, TV and adult content will reach to about $38 billion, and user-generated content such as social networking service will grow to a $13 billion market.
- Informa Telecoms & Media (Mobile Marketing Magazine, 2009) has the following forecasts:
  - o In 2013, almost 300 billion transactions, worth more than US $860 billion, will be conducted using a smartphone. It is a twelve-fold increase in gross global transaction values in just five years.
  - o By 2013, over 445 million mobile subscribers will use their smartphones to purchase physical goods and services regularly.
  - o By 2013, there will be 977 million users of mobile banking services worldwide, a dramatic increase from approximately 67 million at the end of 2008.
- 204 million mobile users will adopt mobile payments, which generate almost $22 billion of transactions, by 2011 according to Glenbrook Partners, LLC (2008).

Although people perform mobile-commerce transactions all the time, most mobile users have no idea how they work because mobile applications involve such a wide variety of disciplines and technologies and new technologies are being created every day. For example, the handheld technologies include energy

saving, handheld data management, handheld HCI (human computer interface), handheld peripherals, mobile operating systems, Web content adaptation, and wireless networks. Researchers working on innovative mobile-commerce applications must therefore be familiar with new ideas and concepts from many fields. For example, many of the popular mobile applications offered by the iPhone App Store are location-based and involve activities such as finding the nearest gas station or a specific type of ethnic restaurant. This kind of application does not rely solely on traditional computing approaches but also requires the use of handheld computing techniques such as GPS (global positioning system) tracking and map services.

To my surprise and knowledge, there is no journal or magazine dedicated to smartphone research currently. (The inaugural issue of International Journal of Handheld Computing Research, edited by the one of the editors of this book, will be published in the beginning of 2010—from the book editors.) Two magazines, *Handheld Computing* and *Smartphone & Pocket PC*, are out of print now because of lack of subscriptions. By the way, these two magazines were not really related to handheld research. Introduction of smartphones and PDAs and their applications is the magazines' major mission. Some smartphone books are available in the bookstores now, but most of them are related to specific devices such as iPhone or BlackBerry and they are application/development-oriented instead of research-oriented. With the extreme popularity of cell phones and smartphones, I believe there is a knowledge gap of handheld computing for mobile commerce needed to be filled. The book *Handheld Computing for Mobile Commerce: Applications, Concepts and Technologies* is a long awaited book for readers interested in handheld computing and mobile commerce. It covers a broad range of handheld topics for mobile commerce, both in depth and breadth. It is a must-read book for IT personnel and students who want to keep up with the fast-evolving IT.

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