Chapter I
Fundamentals of Mobile Commerce Systems

INTRODUCTION

With the introduction of the World Wide Web, electronic commerce revolutionized traditional commerce, boosting sales and facilitating exchanges of merchandise and information. The emergence of wireless and mobile networks has now made it possible to extend electronic commerce to a new application and research area: mobile commerce, defined as the exchange or buying and selling of commodities, services, or information on the Internet through the use of mobile handheld devices. In just a few years, mobile commerce has become the hottest new trend in business transactions. The future of mobile commerce is bright, as shown by the following predictions:

- The dramatic growth in demand for smart mobile devices, specifically hand-helds, wireless handhelds, and smart cellular phones, through 2007 is shown in Figure 1.1 (Canalys, 2004a, 2004b, 2004c, 2005a, 2005b, 2005c, 2005d, 2006, & 2008).
- The forecasts of smart mobile device shipments are even more encouraging. Smart cellular phone sales will grow at a rate of more than 30% a year for the
next five years starting from 2008 according to Bill Hughes (2008) at In-Stat. With this rate, the total shipments of smart mobile devices will pass the one billion mark by 2014 as shown in Figure 1.2 (Canalys, 2008; Hughes, 2007; Symbian Limited, 2008).

- Estimated worldwide shipments of the following four types of devices in 2007 were
  - **Cellular phones**: 1.12 billion (Strategy Analytics, 2008),
  - **Laptops**: 110 million laptops shipped in 2007, 33.8% growth from 2006 (IDC, Corp., 2008),
  - **PCs**: 160 million desktop computers shipped in 2007, 4.3% growth from 2006 (IDC, Corp., 2008), and
  - **Smartphones**: 118 million, up 53% from 2006 (Canalys, 2008).