Chapter 1.26
Definitions, Key Characteristics, and Generations of Mobile Games

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INTRODUCTION

In the emerging wireless environment of digital media communications represented as *ubiquitous* and *convergence,* rapid distribution of handheld mobile devices has brought the explosive growth of the mobile content market. Along with the development of the mobile content industry, mobile games supported by mobile features such as portability (mobility), accessibility (generality), and convenience (simplicity) have shown the highest growth rate in the world game market these days.

In-Stat/MDR (2004) and Ovum (2004) expect that the mobile games' annual growth rate between 2005 and 2009 will be around 50% in the United States and 30% in the world. According to KGDI (2005) and CESA (2005), compared to the rate of the whole game market (5%) of the world, it

is about six times higher, and it exceeds the rate of video console (10%) and online games (25%). Mobile games thus are predicted to be one of the leading platforms in the world game market in 10 years' time. In addition, as the competition among game companies has been enhanced with the convergence of game platforms, mobile games are being regarded as a breakthrough for the presently stagnant game market, which has focused on heavy users.

However, due to the relative novelty of mobile games, there are a few visible barriers in the mobile game industry. First, definitions and terminologies and key characteristics related to mobile games are not clearly arranged as yet. Second, there is little research on the classification and development trends of mobile games. Therefore, this article is designed to contribute insights into these barriers in three ways. Firstly, the article

provides narrow and broad definitions of mobile games. Secondly, key characteristics, platforms, and service types of mobile games are discussed. Finally, following the broad definition of mobile games, this article classifies mobile games as one to fourth generations and one pre-generation. Characteristics and examples of each generation are also presented.

DEFINITIONS OF MOBILE GAMES

Each country and each game research institution has different definitions and terminologies. The definition of mobile games is important because the functions of mobile devices are being converged with those of other devices. Mobile games—more precisely, mobile network games—are narrowly defined as *games conducted in handheld devices with network functionality.* The two key elements of this definition are *portability* and *networkability.* In this definition, mobile games are generally referred to as the games played in handheld mobile devices such as cell phones and PDAs with wireless communication functionality. In terms of portability and networkability, the characteristics of mobile games are different from other device platforms such as PC and console games, which do not have both portability and wireless capability. For example, Game Boy (GB) with no communication functionality was only regarded as a portable console device. However, this concept has lost some of its ground in the market since the advent of new mobile game devices from portable consoles such as Play Station Portable (PSP) and Nintendo Dual Screens (NDS), as wireless networked games began to be serviced through the new mobile game devices.

Mobile games can be broadly defined as *embedded, downloaded, or networked games conducted in handheld devices such as mobile phones, portable consoles, and PDAs.* The key element of this concept is portability: all games in portable devices can be thought of as mobile

games without regard to wireless functions. Therefore, this concept expands mobile games by including video games in portable consoles and embedded games in general portable devices such as PDAs, calculators, and dictionaries. As most game devices have been adopted with wireless networking functions, this definition becomes more powerful in game markets.

Recently, the narrow definition of mobile games has been generally used. However, since the meaning of *mobile* includes that of *portable and network (either wired or wireless function is embedded),* the broad definition of mobile games including portable game-dedicated devices such as GBs and PSPs should be used. This definition is more persuasive in the present and future game market. For instance, the competition between Nokia's N-gage (i.e., a cell phone integrating the functions of MP3 and games) and Sony's PSP (i.e., a portable game machine including functions of MP3 and networking) is for the preoccupation of a future mobile platform.

KEY CHARACTERISTICS, PLATFORMS, AND SERVICE TYPES

Characteristics and Limitations of Mobile Games

Mobile games are differentiated from other platform games such as console, PC, and arcade games in terms of their portability, accessibility, networkability, and simplicity. Owing to the *portability* (i.e., mobility), users can play games anytime. This characteristic has attracted many light users, who play simple games such as puzzle, card, or word games, because these games can be played in one's spare time in a short amount of time. Compared to players in other genres such as role playing games (RPGs) and simulation games that require a long time to play, light users vary broadly in terms of age, and many women players also belong to this group. This is one of the

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