

## Chapter 12

# Mobile Gaming: Exploring Spaces and Places

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### ABSTRACT

*The continued evolution of mobile technology provides for new means of interaction and engagement in our daily lives. The interconnectedness, availability, and rapid adoption of mobile computing means users can expect to have access to data and information on their terms. Likewise, games and means of play are increasingly common on mobile devices. This chapter seats a discussion of mobile game development within the context of place and space to reveal how we can improve our understanding of mobile interaction and begin to merge our view of physical and digital spaces. By applying the ideas of place and space to mobile game development, game applications can encourage users to broaden their view of the spaces around them and strengthen the developments of interactions in a mobile world.*

### INTRODUCTION

The technology of today is becoming more prevalent and pervasive. Computers are no longer left at home or the office but are taken with us in our travels, riding along with us on the bus or sitting with us at coffee shops and in the park. The capabilities and features of PDAs, ultra portable laptops, netbooks, smart phones, and small, por-

table entertainment devices have vastly increased the ability to connect to media and information in a variety of settings, in mobile contexts. In addition to connecting people to one another and providing on-demand, virtually-anywhere access to data on the Internet and communication such as e-mail or instant messaging, mobile technology provides another avenue of entertainment and leisure. Devices such as the iPod Touch, Sony PSP, and Nintendo DS offer games on the go,

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using wireless networking to connect individuals as they play.

These devices allow computer games to detach from the desk, to get away from the television. The clarity of small screens and processing power of handheld devices has grown such that libraries of games and apps are available to whittle away time on the go, immersed in game play. However, mobile devices, being small and portable, don't have the same space for input and interaction. While a desktop computer game may have a mouse and full keyboard, the mobile game might only have a few buttons on its parent device. Mobile game development is just as much that of interface development as it is of the game mechanics and features. Handheld game consoles borrow from their large cousins, merging controllers with displays and the CPU into one, portable device. Games developed for Apple's products or the Nintendo DS, however, instead employ the touch screen for direct manipulation and in the former's case also the accelerometers to capture movement. Essentially, game development makes full use of the capabilities of the host device both for presentation and for interaction.

It is definitely fair to claim that one of the larger draws to mobile devices is the portability and freedom to use them anywhere. But while mobile games make use of the device's interactive capabilities, why don't they also make use of the mobile context? These games have incorporated touch screens, small displays, physical movement, and the pick-up-and-go mentality in their design. However, what about incorporating the mobile context and connectivity of the devices?

Designing for the mobile context isn't a new and unexplored space. Applications and tools that emphasize the ability to explore and move around while using a mobile device exist and have been shown to add to the experience. For example, much as audio files can enhance museum tours, PDAs provide the ability for individuals and groups to more deeply engage with exhibits and perhaps even each other as they visit museums. Mobile devices

have been explored in the workplace, making use of an employee's location to provide relevant data, such as local patient information and nearby contacts for in-home health care professionals. Likewise, gaming has made use of locations. Urban games, or Alternate Reality Games (ARG), make use of places and spaces in geographic areas as large game boards, laying down rules for players that dictate how they engage one another and the game and incorporating physical activity as a primary aspect of game play. In these activities, the spaces, be they of a museum or a city block, are defined by the places relevant to the activity, the interactions – browsing an object in a museum, caring for a patient, or scoring points. Mobile gaming can go beyond the device and its capabilities; mobile gaming can leverage the place of the spaces within which we exist.

## **EVOLVING INTERACTIONS AT THE DEVICE LEVEL**

When designing any device, balancing the intended use built into the device with the ways it may actually be used play a key role in its success, at least with respect to whether or not end users prefer the device over others. The placements of menus, the size and positioning of buttons, and the style of interaction play a role in affecting the user experience and the efficiency or satisfaction of using a device. Models can be used to help analyze use and predict user behavior to improve device design and interaction techniques before the final product is released. These models may predict or describe interaction or provide a means to measure the interface and evaluate the usability of a device. The growth of technology and its capabilities have led to new means of interaction and devices, each of which likely modeled and tested.

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