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Chapter XV

Location-Based Services: Criteria for Adoption and Solution Deployment[1]

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ABSTRACT

This chapter provides an overview of location-based services and insight into the pivotal importance of location-sensitivity to the success of wireless data services. This chapter argues that mass-market adoption of wireless data services will only occur if these services enhance productivity and/or convenience for end-users; transforming novelty into a "must-have." It is the author's view that m-commerce is inextricably linked to location and that the incorporation of location-sensitivity will transform these transactions into a relevant, personalized and actionable experience for the user, thereby encouraging the kind of uptake required to fulfill market potential and bring revenue to carriers. The author will provide examples of location-sensitive wireless data servces in consumer and enterprise environments. A specific case study showcasing a next generation solution jointly developed by TargaSys, a division of Fiat Auto and Autodesk Location Services will describe key elements of a successful model for location-based services. Future directions, revenue models, and key technology enablers for successful deployment will also be discussed.

OVERVIEW OF LOCATION-BASED SERVICES

The intersection of two powerful technologies—Internet connectivity and wireless communication—is driving the proliferation of mass-market wireless data services in the first decade of the 21st century. The Internet provides a ubiquitous means for the delivery of information and services from a wide variety of heterogeneous sources wherever a network connection exists. Wireless communication networks enable those connection points to float free of the geographical constraints of the wired telephone or cable infrastructure.

Internet connectivity and wireless communication are augmented by a third key technology, location determination technology (LDT), wireless data services that are customized for a specific place, time and individual can be economically delivered to a mass market. LDT, which identifies the current position of a free-floating network user and automatically reports that position to a service application, is the key component behind the most promising and profitable segment of the wireless data market: location-based services.

What are location-based services? A location-based service is any applications that offer information, communication, or a transaction that satisfies the specific needs of a user in a particular place. Traffic information for the highway a user is currently driving on, or a discount (that expires in 15 minutes) for a coffee shop around the corner from where a user is walking, are both classic examples of location-based service. Mobile commerce (m-commerce) represents the transaction component of location-based services, but the universe of location-based services broadly incorporates many other applications where money may not change hands.

Do users want location-based services? In addition to enterprise applications such as fleet management, horizontal consumer offerings have begun to emerge that appear to have strong user demand among the adopters. In this chapter we will discuss the experience of one of these seminal consumer offerings, auto concierge services, which has demonstrated many of the benefits of location-based services for users. We will also identify the key criteria for successful location-based service adoption, the primary architectural issues involved in deploying a comprehensive location-based services solution, potential revenue models for this new form of business and some expectations for the continuing evolution of location-based services.

THE MOBILE NETWORK OPERATOR OPPORTUNITY

There are many actors who are seeking to exploit location-based services: