Chapter 2
Tackling M-Government Service Complexity:
The Case of Bahrain

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ABSTRACT
The development of mobile government services in Bahrain is moving slowly, when compared with traditional e-government services. Few informational and transactional services are available on the mobile portal. The complexity of government services prevents their delivery through the limited mobile phone interface. This exploratory research builds a method to tackle service complexity, as well as simplify and streamline the design and development of government services that target mobile devices. Forty government services in Bahrain were analyzed to identify the factors that affect mobile government services. The model was then applied to the sample services, and results were used to develop the target method. The main finding of this research is that the current approach of taking the existing services on the PC portal and implementing them on the mobile portal should be avoided. A better approach is to break down the services into sessions or components and identify opportunities where mobile technologies can be utilized.

1. INTRODUCTION
The rapid advancements in wireless and mobile technologies combined with the wide spread of mobile phones and the utilization of such an opportunity in e-government services have created a new direction, the mobile government (m-government) (Kushchu & Kuscu, 2003).

Kushchu and Kuscu (2003) define M-gov-ernment as the strategy and its implementation involving the utilization of all kinds of wireless and mobile technology, services, applications
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and devices for improving benefits to the parties involved in e-government including citizens, businesses and all governmental units.

With the continuous advancements in wireless technologies and the new opportunities to provide government services through those technologies, m-government seems to be inevitable (Kushchu & Kuscu, 2003; Sadeh, 2002).

However, mobile devices have limitations regarding their small size, limited bandwidth, low memory and storage capacities, low resolution screens, and keyboard restrictions. These limitations have made it more difficult to implement services that target such devices than to develop traditional services that target traditional desktop computers (Al-Khamays, Hujran, Aloudat, &Lawrence, 2006; Germanakos, Samaras, & Christodoulou, 2005; Mallick, 2003).

Given the availability of the Government Data Network (GDN), the eGovernment Project and the high mobile phone penetration, there is a great opportunity to implement m-government in Bahrain and to exploit the benefits that wireless technologies provide (AlAmer, 2006; EGovernment Authority, 2007; TRA, 2008; CIO, 2007).

The eGovernment portal is a “one stop shop Portal” and is the key service delivery channel for individuals, business, government and visitors, which integrates and provides all types of vital services. It was launched on 23rd May, 2007, and it’s managed by the eGovernment Authority (EGA) as part of Bahrain’s national strategy to execute the comprehensive e-government programs (EGovernment Authority, 2010). The services on this portal are directed to the traditional desktop computer interface and they are not customized for access through the limited mobile phone interface.

Bahrain’s main e-government channel is the web based eGovernment portal. Since this channel is accessed mainly through personal desktop computers, it will be referred to in this study as the PC portal to distinguish it from the other channels, especially the mobile channel. Other channels include the Mobile portal, the National Call Centre portal and the Common Service Centers. By the end of 2010, there were more than 190 services on the PC portal. The Mobile portal is a channel that hosts services that are customized for access through mobile phones. By the end of 2010 it hosted 45 services (EGovernment Authority, 2010), where most of those services are informational. A detailed list on Bahrain government eServices can be found at the eGovernment portal (www. bahrain.bh), including mobile services.

1.1 Problem Statement

As described earlier in this study, the Mobile portal is far behind the PC portal in terms of maturity and number and types of services. This is clearly justified since the PC portal was implemented before the Mobile portal and since mobile phones are limited in terms of size and bandwidth when compared to desktop computers. Complex services that are easily provided through the PC portal may need more analysis and reengineering before they can be delivered as mobile services (Olmstead, Peinel, & Tilsner, 2007).

However, given the high mobile phone penetration in Bahrain and the advancements in wireless and mobile technologies, a method is needed to overcome the complexity of mobile services and to enable the optimal utilization of m-government to enhance the delivery of e-government services.

This research aims to study the services provided by Bahrain’s government organizations in order to find an appropriate method to simplify their delivery as mobile services.

This study is guided by the following research questions:

1. What are the main characteristics of Bahrain’s government services and what are the attributes that affect the ability to provide them through the mobile interface?
2. What is the appropriate method to design and implement mobile government services in Bahrain?
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