Chapter XII
eBook Mobile Payment Process Model

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ABSTRACT

Studies on the use of mobile payment (m-payment) method for buying electronic book (e-book) are very scarce, possibly not yet available. Consequently, a study was undertaken to accomplish the main aim of proposing an m-payment model for marketing and purchasing e-books. A number of process flow models are proposed to serve as diagrammatic representations of the process models that are of concerned. The models clearly specify all the entities involved, such as Telco, merchants, buyers, and e-book providers, and how the data and transactions, are flowing from one entity to another. The processes of browsing, buying, and downloading e-books are also documented. In validating the process flow models, two prototypes, a WAP and Web environments, were developed and tested to assess the model and system acceptance rating. Key findings indicate that m-payment is the most preferred payment method for buying e-book in higher learning institutions and the acceptance factors of such technology were found to be on the high and positive side.

INTRODUCTION

The project discussed in this article was motivated by a previous study titled Electronic Information Centre (eInfoC). eInfoC aims of providing academics a platform to publish and market their publications electronically was successfully implemented. Indeed, it was a pioneer project for publishing, promoting and marketing of electronic books (eBooks) in Malaysia particularly the higher learning institutions (HLIs). The project was initiated by several lecturers from the Universiti Utara Malaysia (UUM). The current pay-

ment practices in eInfoC are "forwarded by lecturer", credit cards, cash and cheque. However, due to buyers demands for a payment system that is accessible by the mass of students (especially HLIs), easy to use, convenient, and requires no major investment in the infrastructure and technologies, mobile payment (mPayment) was found through a survey in UUM as the most preferred solution.

mPayment can be defined as the use of mobile devices such as mobile phone, PDA (Personal Digital Assistance), tablet PC or mobile computer to make payment for purchasing goods and services. mPayment is popular among users for purchasing ring tones, games and music (Cellularnews.com, 2005), however the use of mPayment for buying eBook is scarce, possibly unavailable (Norshuhada, 2005; Norshuhada et al., 2006). Also, using mPayment method for buying eBook is seen as the most suitable method since majority of the higher learning institutions students own mobile phones. This is confirmed by a survey conducted in UUM (Norshuhada & Shahizan, 2005).

Therefore, to start implementing mPayment as the payment method for buying eBook, process flow models have to be proposed and developed, where the models serve as diagramatic representations of the processes that are involved. A study was undertaken to accomplish the objectives of proposing eBook mobile payment process flow models and assessing the acceptance of the technology. Next sections introduce mPayment concept and detail the proposed process flow. To validate the process flow models, a prototype was developed and this is discussed in the last section.

mPAYMENT CONCEPT

The emergence of mobile commerce (mCommerce) services and demand for these services is affected by the current mobile networks such as 2.5G, 3G and 4G. This provides an ideal environment for payment of content (digital and physical goods) and services. An interesting aspect about mPayment is that the mobile devices can be used as payment device for all types of payment situations, either electronic commerce (eCommerce) or standard commerce (Malte, 2001; Dahlstrom, 2001). McKitterick and Dowling (2003) stress that mPayment is nowadays gaining significant attraction and many users are already using mobile devices for mobile purchase (Adrian, 2002).

mPayment can be defined as any payment transactions involving the purchase of goods or services completed with wireless device such as a mobile phone, personal computer (wireless), or personal digital assistant (PDA). It is also defined as payments transactions carried out wirelessly via a mobile device; the process of two parties exchanging financial value using a mobile device in return for goods or services; and payment method, which is based on the mobile phone (Ondrus, 2003; Malte, 2001; Rabussier, 2001; Lussanet, 2001; Mobile Payment Forum, 2002; Gross, et al., 2004).

Based on the above definition, a fundamental demand for the mobile device is that it must be able to connect to a network to initiate a payment. The network could be GSM or Internet and the clearing and settlement instance could be a bank or mobile operator (Cervera, 2002). The most popular concept of mPayment is users are paying from mobile phones using either prepaid or post paid methods. In prepaid method, consumers pay in advance to obtain the content they desire with prepaid accounts that are deducted after each payment session. Voice prepaid cards and electronic purse are examples of these kinds of payment methods. In post paid method, payment is made through mobile phone bill (Ruengprat, 2003). Consumers receive the content and consume it before paying. In this article, we classify prepaid and post paid method as an mPayment, which is the basis of our proposed process flow models, discussed in the next section.

mPAYMENT PROCESS FLOW FOR BUYING EBOOKS

Here, we propose a comprehensive process flow for mobile payment system for buying eBook. Before we discuss the flow, which is in Process Flow Diagram (PFD), an overview of the used of Premium SMS (P-SMS) as the payment scheme for buying eBook and Receipt System as the method for collecting purchased eBook are discussed.

Premium SMS (P-SMS)

P-SMS is a profit sharing based system; a telecommunication company (Telco) and eBook Provider (eP) will share the profit from the transaction on the agreed ratio per successful SMS replied back to the buyer.