Heuristic Based User Interface Evaluation of Mobile Money Application: A Case Study

Bimal Aklesh Kumar, Fiji National University, Lautoka, Fiji
Shamina Hussein, University of the South Pacific, Suva, Fiji

ABSTRACT

Mobile money is creating entirely new opportunity for mobile devices and provides functionalities similar to e-commerce. The nature of these devices pose two major limitations that are small screen size and lack of input capability, which makes designing applications for mobile devices a challenging task. It is important that the user interface is user-friendly and help users easily obtain their desired results. This study applied heuristic evaluation to examine the interface of SMS based mobile money application provided by vodafone called M-Paisa in Fiji. User interface evaluation of this application based on seven heuristic involving fifteen experts is described. The results show that there are minor usability problems with M-Paisa interfaces and we provide our recommendations to address them. Findings of this research can be applied to develop a set of guidelines to support the future design of effective interfaces for other mobile money applications.

Keywords: Heuristics, Human Computer Interaction, M-Commerce, M-Paisa, Usability

INTRODUCTION

Mobile and other wearable devices are becoming increasingly important in our daily lives, and there is a corresponding large activity on the design of interaction for these devices. This paper is focused on an interesting and emerging issue using mobile devices for mobile commerce. This study evaluates the user interface of SMS based Mobile Money application in Fiji called M-Paisa. M-Paisa provides services such as money transfer, bill payments, recharging your mobile phone etc. It is SMS based application whereby data is sent and received using text messages. Although SMS is supported by all mobile phones unlike WAP and Java but it can carry very limited amount of data which makes designing applications that is user friendly and easy to use a challenging task.

The term usability is not unexceptional in today’s system development and evolution. Traditional view of usability that is popular among software developers is the attributes of the user interface that makes a product easy to be used (Bevan, 2009). Several user interface evaluation methods have been proposed in the...

DOI: 10.4018/ijhcr.2014040105
past to assist the system developers. Heuristic evaluation is a method for examining the interface usability of any software. It was originally developed by Niels and Molich (1990) and later refined by Niels (1994). The heuristic evaluation method requires a small set of evaluators to examine the interface and review its conformity with recognized set of properties called heuristics.

The reason for using Heuristic evaluation in this study amongst other viable alternatives is because it is very popular for desktop and web based user interfaces and this method allows large number of usability flaws to be detected with limited investment in terms of time, expertise and money. Mobile computing also shares many similarities with traditional desktop and web interfaces however faces two major limitations that are small screen size and limited input capability.

This article is organized as follows; it provides background of mobile money in Fiji. The method and processes used to conduct heuristic evaluation and presents the analysis of results with some of the challenges faced in conducting heuristic evaluation for these types of application. Finally we provide our recommendations and conclude with future work for research in this area.

MOBILE MONEY IN FIJI

Mobile money offers a new paradigm for utilizing mobile phones for enhanced transactional services that benefit the user and at the same time generate huge business volumes for the service providers with additional benefits at low costs. Mobile money is used to send money, withdraw cash, buy recharge, and pay bills via a mobile device such as a mobile phone or Personal Digital Assistant (PDA) performed via SMS applications.

In Fiji, the continuing success of mobile money has been due to the creation of a highly popular, affordable payment service without any involvement of a bank. The rise of banking transactions through mobile phones is giving a whole new meaning to pocket money in Fiji, that lack banks or cash machines. Many mobile phone users in Fiji live in informal or cash economies, without access to bank accounts. Mobile money has been widespread used in many other developing countries as well. According to Cornu (2010), an Afghan police officer gets his salary in a text message on his mobile phone while a Kenyan worker can dial a few numbers to send money to his family.

According to Krugel of GSM Association, approximately one billion consumers in the world have a mobile phone but no access to a bank account (Krugel, 2011). Mobile money applications are emerging as potential financial tools in rural and remote areas allowing people with no bank account to get paid, and pay their bills. Over the years, a lot of initiative has been instigated to provide various forms of financial services to the un-banked via mobile phones. These financial services take a variety of forms such as long-distance remittances of large sums of money, micro payments and alternative currencies where the stored minutes (phone credits) on a phone can replace cash holdings and transfers. Many initiatives stated can no longer be considered pilots; in the Philippines, in South Africa, in Kenya, and elsewhere, some variant of these services are available to virtually any customer on a nationwide GSM network. While not as ubiquitous as voice calls, text messages, or even ring tones mobile money is on the cusp of becoming a fixture in the developing world. In Fiji these services are provided by vodafone and referred to as M-Paisa.

M-Paisa

M-Paisa is Vodafone’s money transfer service that facilitates sending and receiving of money and bill payments, using any vodafone and inkk mobile phones in Fiji. An individual does not need to have a bank account in order to use this service. M-Paisa is widely used to transfer money, make bill payments and recharge mobile phones. M-Paisa can also be used as an online payments system for goods purchased through the internet. It is an instant, secure, affordable
A Novel Energy Saving Approach through Mobile Collaborative Computing Systems
www.igi-global.com/article/novel-energy-saving-approach-through/43601?camid=4v1a