USABILITY BASED RELIABLE AND CASHLESS PAYMENT SYSTEM (RCPS)

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ABSTRACT. *The advent of e-payment systems has promulgated considerable design and usability issues. These concerns have manifested themselves as the key inhibitors to the success of electronic payment systems. Credit and debit cards have proved to be popular alternatives to cash payments in retail transactions. However, this is merely due to the unavailability of a system that would provide a reasonable alternative to the threats posed in carrying them. We attempt to propose a system that provides a platform for cashless transactions based on reliability and usability features. The Reliable and Cashless Payment System (RCPS) entails the involvement of an accredited financial institution that invokes an element of trust essential to design of an effective payment system. In this paper we address the security flaws in modern payment systems and propose a model that would make possible payments without cash or credit cards. We do also consider HCI issues, usability concerns and soaring financial crime rate in our milieu.*
Keywords: RCPS, E-payment, Security, Usability, Macro payments, Micro payments, SET

1. **Introduction.** With the brisk development of e-commerce, e-payment systems have evolved steadily in order to burgeon both online as well as offline trade transactions for payment settlement. The challenge for system developers is to model their applications in coherence with the fundamental principles of human computer interaction. Failure to incorporate proper usability, security and efficiency in system design results in complete rejection of the software product.

Abrazhevich and Rauterberg [1] reiterated the HCI stance on usability by advocating the provision of usability, privacy, security, and trust in building effective business oriented electronic payment systems. The advents of payment cards have seen a complete traversal from the conventional cash payment systems to a more secure online payment method. Payment cards thereby offered more utility and usability to the customer in facilitating consumer transactions and catering to both security and reliability needs.

The omnipresence of credit cards, however, posed immediate problems as hackers quickly went into operation tracking down credit card numbers from major retailers' data bank. The security feature that credit card vowed during the early age was soon no more present. Similarly, in countries where street crimes are on a high, card theft is an easy way to rob an individual from a huge amount of money which he would not normally carry in his wallet.