An NFC featured three level authentication systems for tenable transaction and abridgment of ATM card Blocking intricacies

ABSTRACT:

The flexible use of credit and debit card transactions has become increasingly ubiquitous and so have the associated vulnerabilities that make them a common target for cyber criminals. Furthermore, a prevalent complication associated with blocking of ATM cards involves tedious interactive processes and even possibly long waiting times during interaction with customer care services. Using a three factor authentication scheme employing NFC (Near Field Communication: an emerging technology evolved from a combination of contact-less identification and inter connection providing data exchange), Dash Matrix Algorithm and One-time password, we describe and quantify the potential to overcome common transaction liabilities (brute force attack, Shoulder surfing, skimming of ATM cards, etc.). The auxiliary feature of blocking ATM cards is implemented using a QR code authentication scheme and NFC technology, implemented both in NFC enabled phones and non-NFC phones (with the help of an NFC transmitter, receiver and Bluetooth). The proposed system, therefore, ensures both secure usage of ATM cards and cost effectiveness by utility of novel and increasingly common technology, when also simultaneously proving to be user.

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