Cashless Society Managing Privacy and Security in the Technological Age

ABSTRACT

A cashless society is an economic state which handles financial transactions not in the form of traditional mediums of currency, such as cash or coins, but by transferring digital data (usually by electronic means, such as credit cards and mobile data) between participating parties. Participants of a cashless society must figure out a way to protect their transaction data, acknowledging the risks of organizations collecting mass amounts of said data, which result in a reduction of personal privacy. Balancing individual privacy with data security is vital in the information age, especially considering the increasing risk of data breaches and exploitation. In order to increase privacy in a cashless society, a few courses of action can be combined to produce a lasting and desirable result for users: A new kind of banking service that assigns randomized numbers to credit cards, the use of blockchain to monitor all transactions from individuals, and a campaign to educate and inform key stakeholders about security and privacy risks to provide the necessary tools and background knowledge to safeguard their own information before interaction with a foreign entity or other third parties (i.e. cybersecurity departments, IT technicians, etc). Blockchain and card number randomization are both susceptible to zero-day errors, bugs, and varied levels of social acceptance. This preliminary research draws on a systems analysis of cashless systems to identify and analyze a set of social and technical solutions to support a robust cashless system that protects users’ privacy and maintains the security of the system. The information found and analyzed will be beneficial by exposing weak points in current methods of data integrity and security. Learning about current and future methods of managing privacy and data security in the technological age would be helpful in creating preventative countermeasures. This study provides critical steps to prevent the loss of personal privacy in a cashless system.

**EXISTING SYSTEM**

The 2017 report "A Cashless Society - Benefits, Risks and Issues" from a volunteer working party focused on global developments for the topic of a cashless society during the year. This is the 2018 update. It focuses on the trends of that year only. Only countries with substantial events or announcements are talked about, and only new findings are reported for the ones that featured in the 2017 copy. This copy was collated in the spirit of further developing knowledge, compared to last year. The paper first identifies the driving trends for the year, pointing to structural disruption of the payments ecosystem from conflicting forces. It then reports on regional developments for the topic, with emphasis on India, Kenya, the UK and Australia.

Disadvantages

* + In the existing work, scheme is less effective due to lack of Randomized Credit Card Numbers.
  + The existing system, the system is a cashless society poses risks for its members because all of their transactions which will be tracked online.

**PROPOSED SYSTEM**

* In order to prevent stores and businesses from collecting information about their customers, randomized card numbers can be used. If a customer using the randomized card system purchases groceries from a store, the items bought will be linked to a certain card number. If the customer with the same card returns to the same store on another day, the purchase will be linked to a different card number than the previous day. The system depicts the difference between using a standard credit card and a randomized card, in relation to a store’s database. The database saves the real card number for standard credit cards, and a different number for the randomized one.
* Another system that all levels of government will need to set in place will be a nationalized block chain network, which will handle tracking transactions in a secure and private manner. According to Melanie Swan’s Block chain: Blueprint for a New Economy, block chain operates as a public ledger of all transactions [8]. The block chain will have complete information related to each transaction and the data of each person involved in said transaction. Such technology is more secure than other record-keeping systems.
* Block chain’s ability to track in real time allows for the elimination of error handling, which also allows for improved traceability. Such a feat would first need to be built by the collective efforts of developers, engineers and designers. Regulations and operators/maintainers can be established through lawmakers initially passing laws that address who will be operating and maintaining the secure block chain network and moving the financial aspects of life to the network.

**Advantages**

* The system is more effective since The idea of a cashless society includes using digitally based technology to complete transactions, which can range from buying a soda at the convenience store to transferring large amounts of money from one account to another.
* The system is more secured since the system is implemented by Randomized Credit Card Numbers.

**SYSTEM REQUIREMENTS**

➢ **H/W System Configuration:-**

➢ Processor - Pentium –IV

➢ RAM - 4 GB (min)

➢ Hard Disk - 20 GB

➢ Key Board - Standard Windows Keyboard

➢ Mouse - Two or Three Button Mouse

➢ Monitor - SVGA

**Software Requirements:**

* Operating System - Windows XP
* Coding Language - Java/J2EE(JSP,Servlet)
* Front End - J2EE
* Back End - MySQL