Cashless Society Managing Privacy And Security In The Technological Age

Appana Kaveri Durga , Dr.I.R.Krishnam Raju , Sri.V.Bhaskara Murthy

Mca Student, Professor, Associate Professor

Dept Of Mca

B.V.Raju College, Bhimavaram

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.

I.INTRODUCTION

Systems exist in a constant state of change, and their components must be updated in order to increase, or maintain, the ability to effectively accomplish a task and fulfill a purpose. The currency system is a complex one and requires a thorough analysis of its components, in order to operate at an acceptable level. A cashless system is an economic state where all transactions are performed without physical means of currency, such as coins or paper bills. For a cashless system, privacy is a crucial component in need of evaluation. Increasing privacy is and will continue to be a necessary undertaking in a cashless society.

A majority of users are unaware of what kind of data is being collected about them and how that data is being used. We thought the whole paper has realized the need for improving privacy, and we propose to do so with a three pronged solution. First, promoting proper education about data collection and privacy will help

people realize the need for increased privacy. Second, a randomized credit card system will help prevent unwanted parties from collecting sensitive and personal information about people. Third, block chain will prove to be a powerful authentication tool. Security will be drastically improved through the introduction of these three approaches.

Users will have more knowledge about the systems they are using, hackers will have an exceedingly difficult time fooling the block chain system, and data will be difficult to associate with specific people. A cashless society poses risks for its members because all of their transactions will be tracked online. The members of said cashless society will have to figure out a way to protect their transaction data or risk the threat of organizations collecting mass amounts of data about them, which reduces personal privacy.

II.EXISTING SYSYEM

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.

III.PROPOSED SYSYTEM

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.

IV. ARCHITECTURE DIAGRAM
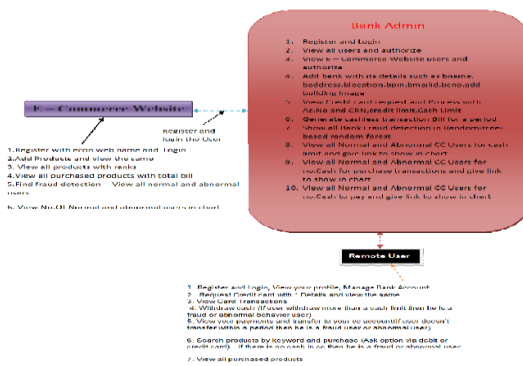
V. IMPLEMENTATION

- Bank Admin

In this module, the Admin has to login by using valid user name and password. After login successful he can do some operations such as View all users and authorize,View E – Commerce Website users and authorize,Add bank with its details such as ,View Credit card request and Process with ,Generate card transaction Bill for a period,Show all Bank Fraud detection in Random-tree-based random forest,View all Normal and Abnormal CC Users for cash limit and give link to show in chart,View all Normal and Abnormal CC Users for no.Cash for purchase transactions and give link to show in chart,View all Normal and Abnormal CC Users for no.Cash to pay and give link to show in chart.

- User

In this module, there are n numbers of users are present. User should register with group option before doing some operations. After registration successful he has to wait for admin to authorize him and after admin authorized him. He can login by using authorized user name and password. Login successful he will do some operations like View your profile,Manage Bank Account,Request Credit card,View Card Transactions ,Withdraw cash,View your payments and transfer to your cc account,Search products by keyword and purchase ,View all purchased products.

- Ecommerce User

In this module, there are n numbers of users are present. Transport Company user should register with group option before doing some operations. After registration successful he has to wait for admin to authorize him and after admin authorized him. He can login by using authorized user name and password. Login successful he will do some operations like Add Products and view the same ,View all products with ranks,View all purchased products with total bill ,Find fraud detection ,View all normal and abnormal users ,View No.Of Normal and abnormal users in chart.

VI. CONCLUSIONS

A cashless society poses risks for its members because data and metadata about their transactions are being collected and used. The members of said cashless society will have to figure out a way to protect their data in order to increase their privacy. Our group has found the idea of a cashless society to involve many systemic complexities. Within the complex system, opportunities arise to implement solutions to privacy and security problems. The various actors in said system have different desires and will respond in unique ways to changes made. Sometimes the best solution to a

problem is the culmination of multiple approaches. Spreading information to the general public helps people learn about the systems they are using and allows for them to make informed decisions. Blockchain helps promote privacy and security through its authentication process. Randomized credit cards help users keep their account numbers private. All three approaches are effective ways of adapting to a dynamic currency system.

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