



## CASHLESS SOCIETY MANAGING PRIVACY AND SECURITY IN THE TECHNOLOGICAL AGE

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**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.

### 1. 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.

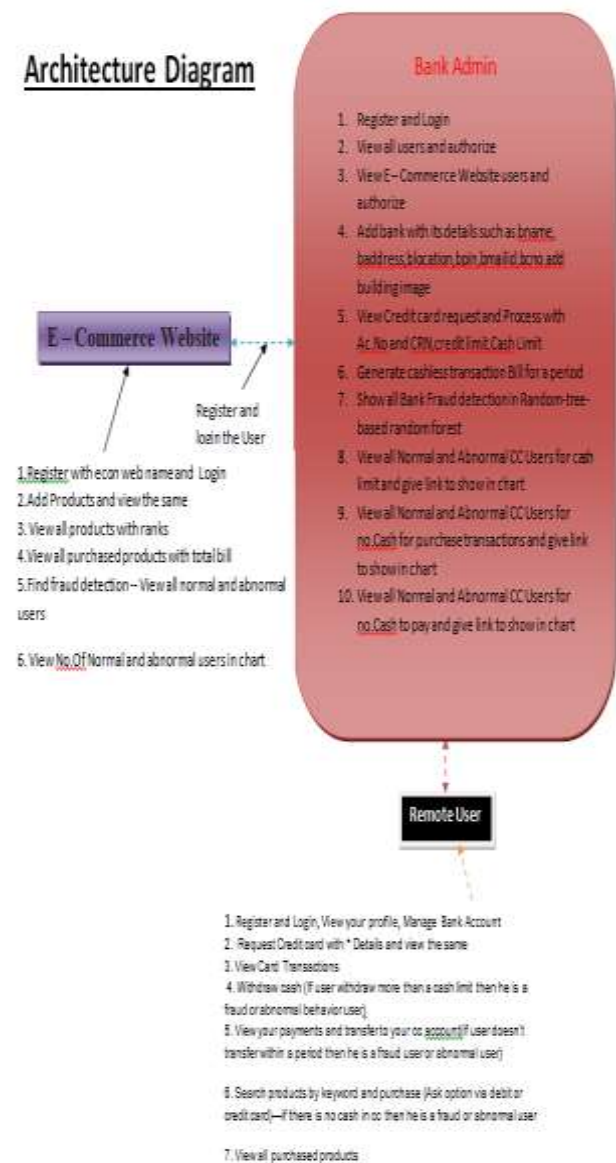
Users will have more knowledge about the systems they are using, hackers will have an exceedingly difficult time fooling the block chain system, and data will be difficult to associate with specific people. A cashless society poses risks for its members because all of their transactions will be tracked 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.

## 2. EXISTING SYSTEM

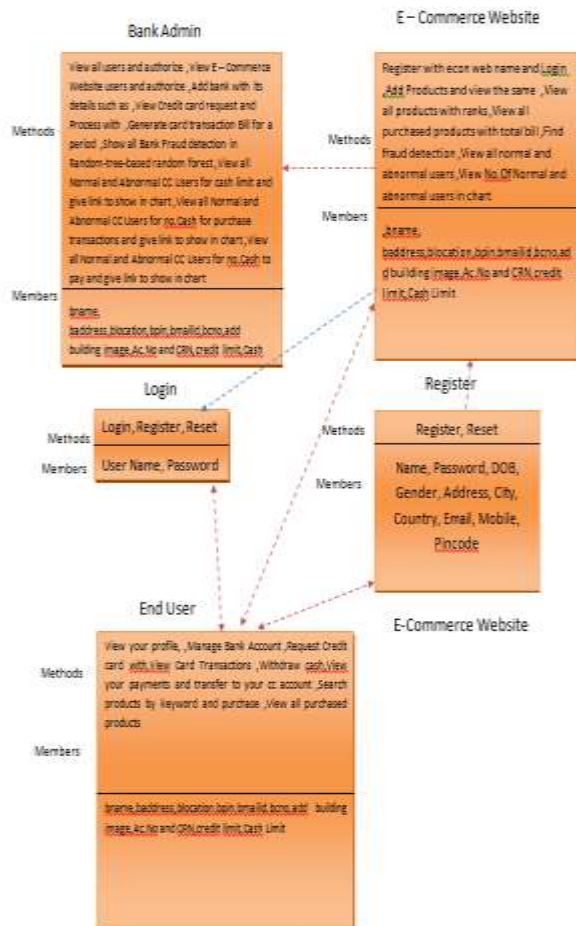
The 2017 report "A Cashless Society - Benefits, Risks and Issues" from a volunteer working party focused on global developments for the topic of a cashless society during the year. This is the 2018 update. It focuses on the trends of that year only. Only countries with substantial events or announcements 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.

### Architecture Diagram



## 3. CLASS DIAGRAM



The class diagram is the main building block of object oriented modeling. It is used both for general conceptual modeling of the systematic of the application, and for detailed modeling translating the models into programming code. Class diagrams can also be used for modeling. The classes in a class diagram represent both the main objects, interactions in the application and the classes to be programmed.

In the diagram, classes are represented with boxes which contain three parts

- The upper part holds the name of the class

- The middle part contains the attributes of the class
- The bottom part gives the methods or operations the class can take or undertake

In the design of a system, a number of classes are identified and grouped together in a class diagram which helps to determine the static relations between those objects. With detailed modeling, the classes of the conceptual design are often split into a number of subclasses.

## 4. FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are

- ◆ ECONOMICAL FEASIBILITY
- ◆ TECHNICAL FEASIBILITY
- ◆ SOCIAL FEASIBILITY

### ECONOMICAL FEASIBILITY:

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only



the customized products had to be purchased.

#### TECHNICAL FEASIBILITY:

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system. SOCIAL FEASIBILITY:

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.

### 5. PRELIMINARY INVESTIGATION

The first and foremost strategy for development of a project starts from the thought of designing a mail enabled platform for a small firm in which it is easy and convenient of sending and receiving messages, there is a search engine ,address book and also including some entertaining games. When it is approved by the

organization and our project guide the first activity, ie. preliminary investigation begins. The activity has three parts:

- **Request Clarification**
- **Feasibility Study**
- **Request Approval**

### 6. SYSTEM TEST

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub assemblies, assemblies and/or a finished product It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

### 7. CONCLUSION

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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