

## Secure E-Wallet using Blockchain

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### Abstract

A cashless economy is a system where financial transactions are made without using cash. It's basically done by using net banking or credit and debit cards also wallets. India is mostly based on cash wherein people in India prefer to carry cash rather than use these cashless methods like net banking etc. However, India is moving towards a "cashless economy phase". A cashless economy's merits include less cash theft, and easy national or international payment. The Indian government is promoting a cashless economy through various apps like the BHIM app, Amazon Pay, Phone Pay, Google Pay, etc. A cashless (Digital) economy is possible and it will be more secure in India using Blockchain technology. Blockchain technology can make India cashless, transparent and secure. So, this proposed system helps users to exchange funds easily and it can be accessed from any web device, including mobile ones. Our proposed system will also maintain the privacy of any user and the user's identity can be maintained. This proposed e-wallet will provide all features which ensure secure fund transfers.

### Introduction

Nowadays, transferring funds or purchasing anything at a store is very simple by using digital methods like Amazon Pay, Phone Pay, or Google Pay. Current digitization is leading India to convert its economy into a cashless one. Whenever the money transactions are not primarily based on money notes but are mostly done by the use of digital modes. Such an economy is called a cashless economy. This cashless economy has merits that include less cash theft, and easy national or international payments are also made without facing any trouble.

Banking sector innovations have made some remarkably changed in the banking systems drastically over a period of time. One of these innovations that are changing the banking system worldwide is Blockchain Technology. A system called blockchain is when data is stored in such a manner that makes system impossible for anyone to alter or defraud the system. Blockchain technology is capable to confront financial business

applications because it provides a permanent record saving of transactions during a decentralized network and it can make India cashless, and more secure. The Indian government must find long-term answers to the problems preventing the spread of a cashless economy if it wants to strengthen its cashless system. Therefore, we are developing a software-based system for E-Wallet using Blockchain Technology.

### **Literature References**

In the proposed study, they seek to both analyze the characteristics of digital money and offer some necessary developmental suggestions for its implementation. Here, the method makes use of encryption technology and digital payment through QR code. The advantage of this system is that it makes use of Encryption Technology. Limitations include the use of visual cryptography and the distributed system will improve security [1].

This proposed paper is regarding the study of blockchain technology. They proposed a study on the design and development of BCT [2]. The advantage includes the feasibility of BCT and concluded as BCT is a more secure and more efficient system and also it makes use of BCT. Limitations of this project include that the speed of transaction verification is slow [2]. This study provides a revolutionary architecture for seamlessly integrating e-wallets from various banks and collaborating organizations utilizing blockchains, which will serve as the basis for India's financial sector's adoption of digital ledger technology (DLT)[3]. The pros of this system include the Use of a distributed system and limitations include the transaction occurring through banks means they are using a third party to perform transactions which makes this system complex[3].The Sora identity system, a mobile app that uses blockchain-based technology to provide a safe protocol for storing encrypted personal information as well as publishing verifiable claims about the personal information of a user, is presented by the authors of the current contribution. Advantages include the Use of Blockchain Technology [4]. Limitations include that Visual cryptography can improve the authentication process more [4].

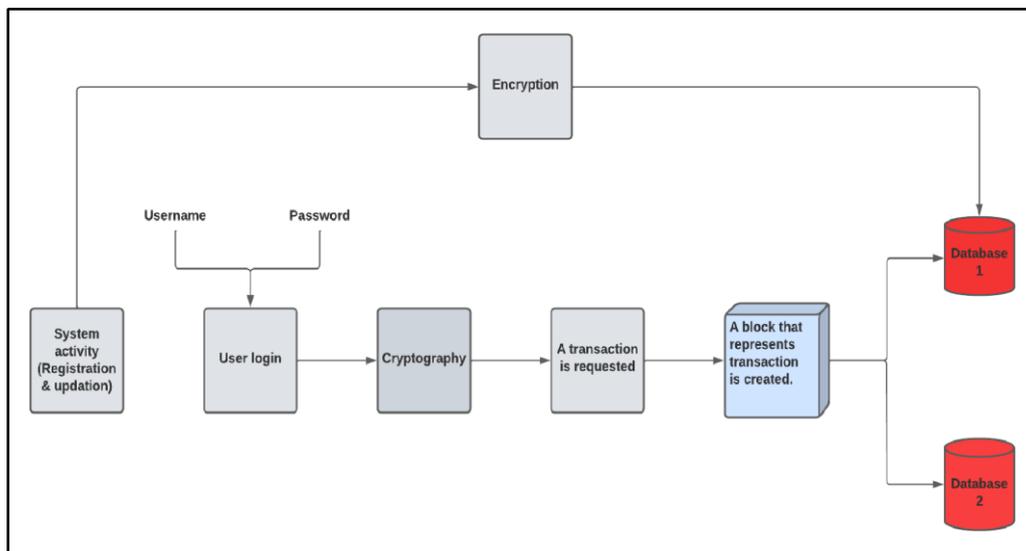
In this paper errors and loopholes in the cashless transaction system (CTS), a mathematical model to illustrate the loopholes, the distinction between the cash and cashless economies, the various types of electronic pickpocketing, the security requirements for online shopping, and how to avoid them using a hash function, and blockchain-based shopping are all covered in this paper [5]. The pros of this are that they have used blockchain technology. Limitations are Requiring more online storage space[5].

In this system the security management dashboard for BloSS shown in this work is created for interactive usage by cyber security experts [6]. DDoS attacks on the defence system are the subject of this work. Pros are blockchain technology is used. Limitations include that The use of visual cryptography will improve the authentication process [6]. This paper highlights the taxonomy of tokens, the justification for

multi-token economies, and their efficiency. As an illustration of a multi-token economy, steamed is examined [7]. This system also explains the history of the multi-token economy and highlights its unique characteristics. The system offers recommendations for multitoken economies' evaluation standards as well [7]. The main advantage of this system is that they have concentrated more on the multi-token economy. It has Complicated Architecture which gets ass into the limitations.

### Proposed System

The project's major objective is to develop a platform to implement a Django-based web application, cryptography, and blockchain with distributed database system using WLAN. Our main focus is on implementing a web-based application for web economy and implementing a transparent and corruption-free web economy using Blockchain Technology. By using a blockchain without a central authority like a bank, the user will avoid different kinds of chargers from a bank. Blockchain will decrease the delays that occur because of conflicts/confusion in financial services, duplicated information, and banks confirming transactions. These abilities make it easy to track and examine the block information. An E-wallet system using blockchain helps to exchange funds easily. Transactions are secure. This e-wallet is accessible from any web device, including mobile, and privacy is maintained.



### Summary

Businesses will benefit from embracing Blockchain technology to conduct online transactions on a global scale This is mainly because Blockchain is a decentralized money management system that allows one to send and receive money in an encrypted database. Blockchain will benefit both multinational companies, which

have to deal with different values and different currencies, and small businesses, which scale up faster in the digital space. Thus, we are going to proposed a web-based software application in Django using Blockchain technology for a cashless economy. Thus, it is possible to track every fund transaction in the cashless economy system using Blockchain technology. Also, the system can be transparent using Blockchain technology.

## References

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