A DETAILED STUDY OF CRYPTOCURRENCY USING BLOCK CHAIN TECHNOLOGY

Darshan P R[1]

Assistant Professor
Department of Computer Science
PESIAMS Shimoga
Karnataka, India

Prashanth Kumar R[2]

Assistant Professor
Department of Computer Science
PESIAMS Shimoga
Karnataka, India

Pradeep G S[3]

Assistant Professor
Department of Computer Science
SRNMNC Shimoga
Karnataka, India

ABSTRACT
With the help of a secure distributed ledger built on block chain technology and transaction mining, crypto currencies have evolved to be a big economic ecosystem. The idea of a cashless society is introduced via digital wallets. However, its popularity is associated by growing security issues, such as a rise in identity theft, which can cause more serious issues and risk user anonymity. Applying cryptography to strengthen the security of Bitcoin and other decentralised digital currency systems and reduce the amount of assaults on either channels of communication or system storage is one solution to these issues. By making new types of disinter mediated digital platforms possible, block chain technology is upending civilization. The Block chain distributed ledger's mining process adds records of previous transactions, enabling users to come to a safe, growing consensus for each transaction. . Digital value exchange between users is possible without the intervention of a third party. In the light of Islamic viewpoint on a third party by using a crypto currency. As a result, countries may decide to transition from traditional financial transaction activities to electronic financial transaction activities.

Index Terms— Cryptocurrency, Block chain, Bitcoin, Wallet etc.

INTRODUCTION
A Study on Cryptocurrency Technology" is a broad report that provides an overview of cryptocurrency and its underlying technology, block chain. The report discusses the various features of cryptocurrencies, including their decentralized nature, their potential for fast and secure transactions, and their ability to reduce transaction fees

All elements of human existence have changed as a result of the advancement of information technology, including the development of digital wallets. Businessmen began to take advantage of the chance to use internet transactions as a result of online trade. Digital wallets were initially recognised as a way for people to keep and spend their money in electronic form, but they quickly gained prominence as a handy way for people to shop online. Soegoto contends that information technology improves performance, competitive advantage, and firm profitability by making firms more responsive, quick, easy, inexpensive, efficient, effective, transparent, and flexible in contemporary business systems. Organizations are using this technology to develop increasingly sophisticated business opportunities as time goes on to ensure the survival of their companies. Electronic money, one of the advancements in payment instruments, includes digital wallets. A digital payment method that leverages server-based electronic media is an electronic wallet. Digital wallets typically take the form of an application that runs on a server and connects to the publisher.

LITERATURE REVIEW
This paper explains how Bitcoin-beyond block chain work overcomes those drawbacks and some of the outstanding issues [1]. The specifications and guarantees of cryptocurrency block chains don't meet the security and privacy demands of FinTech, which range from transaction throughput to primitives. It examines how distributed databases are protected and offers a Block chain-based solution to the problems associated with maintaining information secrecy in them. If there is a way to guarantee that financial activity and transaction activities are stored in a specific database without the participation of the central authority [2]. It analyses the key design and technological facets of block chain technology and gives use cases for block chain applications.

In order to keep your Bitcoin secure and available, the study article focuses on storing Private keys. You may transmit, receive, and spend bitcoin using them as well [3]. It eliminates all the problems associated with conventional banking. Since bitcoin is not used by a financial institution, there are no restrictions on the amount of money that may be transferred between accounts, and there is also no single point of failure.

In order to identify and follow potential routes to innovation, the study suggests a systemic innovation model. This model can be used in any industry to comprehend the innovation growth cycle and the strategy for gaining market share in the banking sector [4] [5]. The empirical findings point to the fact that many banks have not yet upgraded or migrated to block chain technology from their current traditional banking system. The study, which is based on a structurally novel prototype, illustrates how Block chain banking currently has a weak structural foundation [6].

DIGITAL CURRENCY

Nowadays, people use digital currency instead of carrying cash in the form of paper money and physical coins. The automated and sophisticated digital economy is currently accelerating the emergence of digital currency. Bitcoin is reportedly a recent example of digital currency. It is a personal digital money that runs on a peer-to-peer network online. Three main purposes are served by currency. It functions as a means of trade first. It also serves as a unit of accounting and a gauge of relative value. Thirdly, money serves as a store of value for future purchases using current income. Digital currencies like Bitcoin have the potential to be more effective than conventional fiat currencies in each of these functions.

CRYPTO WALLET

Using block chain to transfer and receive cryptocurrency, a crypto wallet is composed of software that stores private and public keys. Coins, including bitcoin, Litecoin, and other cryptocurrencies, are used to add money to these wallets. One needs to build a crypto wallet in order to trade, transmit, or receive cryptocurrency. The currency is not kept in a single place; rather, it is all present on the block chain as records of transactions. Due to the fact that these wallets contain both private and public keys, users may perform a number of tasks using the wallet, including sending and receiving coins, checking their balance, and trading coins on a portfolio. This also protects the user's anonymity by using a wallet's hexadecimal address. The location of the currency to be exchanged varies, though, depending on the service provider.

TRADITIONAL E WALLETS

The customer can choose between prepaid and post-paid alternatives while using a typical e-wallet. It's a wallet that doesn't require the presence of a card; rather, a wallet is made by first adding money. Later, transactions could be made using that wallet. The transaction can vary depending on how it is used, since one can use an E-wallet to pay via their wallet or straight from their bank account utilising UPI. Each time a transaction is made, the database entry for the chosen payment method is changed, and this update is reflected in the customer's wallet or bank account. Paytm is an example of how prepaid and post-paid wallets are being used; they just launched a post-paid method that assures that customers can withdraw money from their wallet up to a specific limit. However, E-wallets are made to make transactions easier while using mobile devices like smartphones, which necessitates the availability of the internet. These wallets can be used on browsers to speed up user-selected transactions.

PROBLEM STATEMENT

An all-inclusive Bitcoin Wallet business solution is an e-wallet that makes use of bitcoin technology. Here, users can create their own e-wallet addresses, register, and receive and send bitcoin to anyone worldwide. An electronic wallet, often known as an e-wallet, is a sort of card that may be used for computer-based online transactions. It serves the same purpose as a credit or debit card. A new technology called virtual cash or cashless transactions has grown significantly during the previous 12 months.

PROPOSED SYSTEM

All of today's wallet's features are available on a single practical smart card with the electronic wallet (E-wallet), which eliminates the need for several cards. Every credit card transaction requires identification, and the card has a deactivating feature in case it were to be tampered with. For pocket-sized, palm-sized, handheld, and desktop PCs, there are commercially available electronic wallets that are regularly used by online buyers. In addition to storing personal and financial information like credit cards, passwords, email contacts, bank accounts, PINs, and much more, they are a safe, convenient, and portable tool for online shopping. The usage of an electronic wallet offers lower expenses because it eliminates the need for brokers. Applications offer users a more simple way to complete transactions, offering companies using this technology a competitive edge in the market. This introduces a completely new aspect to payment systems in sizable markets, opening up a wide range of company prospects and increasing possible earnings. Data from various platforms will be synchronised, and the bank accounts, credit and debit cards, and bills will all be integrated to aid in better management. Applications offer customers a more simple way to complete transactions, offering companies using this technology a competitive edge in the market. This introduces a completely new aspect to payment systems in sizable markets, opening up a broad range of company prospects and increasing possible earnings. Data from various platforms will be synchronised, and the bank accounts, debit and credit cards, and bills will all be integrated to aid in better management.

BITCOIN WALLET TRANSACTION

If a user wants to utilise a bitcoin wallet programme for a transaction, the wallet needs to have both a public and private address. Anyone can transfer bitcoins to a wallet, and the wallet owner will have the public address. Only the wallet owner needs to enter the private address when sending bitcoins. The secret address is secured and safeguarded by wallet security. Wallet enables users

to carry out transactions between addresses by asking for a block chain update. This can take on a variety of shapes, including those of cash token, computer, or mobile device.

ANALYSIS

In order to guarantee that each transaction is authenticated and was started by the user themselves, we do need block chain implementation in the main banking system. Despite the fact that implementing this technology is quite doable, it does so at the expense of several security costs associated with traditional banking systems, namely centralization. Since the dispersion of data across the network at distributed databases is the key to its success, block chain-based wallet systems demolish the centralization of data and store the data at multiple locations. Customers' data and bank accounts are both extremely secure in the hands of the block chain-based technology.
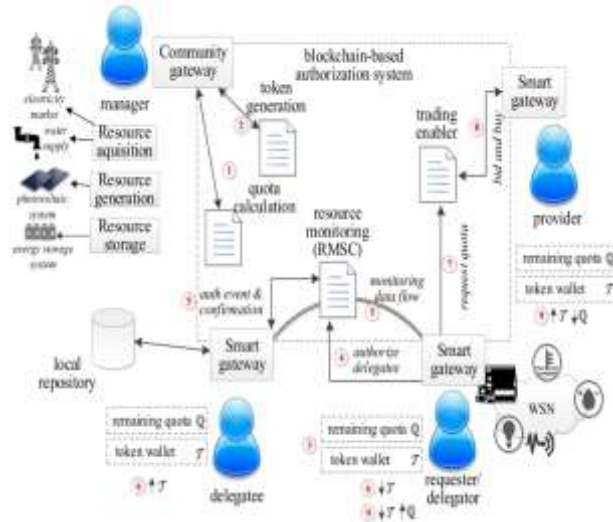
FUTURE TREND OF BITCOIN

Currently, there are approximately 7.5 million bitcoins in circulation, and 50 bitcoins are given away roughly every ten minutes. The total amount of bitcoins will be close to 21 million by the year 2030. There is no management group or anyone with the authority to modify this.

CONCLUSION

A Study on Cryptocurrency Technology" provides a valuable introduction to the topic, covering a range of technical and non-technical aspects of cryptocurrency and block chain technology

In addition to the functions a physical wallet serves, an electronic wallet must meet the fundamental criteria of payment and authentication in online transactions carried out from any device with access to the Internet. Once this is accomplished, a variety of "value-added" services will be added to the electronic wallet. The virtual image of a person on the Internet will eventually be their electronic wallet. Any Internet access point will be able to access the electronic wallet, which will operate as the owner's authorised representative for e-Commerce transactions.

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