Applications of Blockchain

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ABSTRACT

In the initial age blockchain was considered as the platform for digital currency. But as time passed the blockchain become popular in many field because of its decentralized property. Blockchains are being used in a number of applications for secure transactions. The aim of this article is to have a glance on the current application areas and some future areas of blockchain.

KEYWORDS – Blockchain, e-voting, trade and finance

I   INTRODUCTION

A Blockchain is a database which is distributed in nature and can be directly shared between non-trusting parties, without a middle man. In other words we can say a Blockchain is a public ledger of all transactions that have been executed and shared among different parties in a Blockchain. Blockchains are being used in a number of applications for secure transactions.

Until recently, blockchain was familiar more as the technology supporting Bitcoin. However, now it realizes that smart contracts based on blockchain can play a much larger role in many applications. The choice of blockchain can have a great impact on this technical world. In this article we will discuss the various applications areas of this rising technology.

Blockchain

A Blockchain is one of the most popular and controversial talk shows among technology leaders. In simple words blockchain is a type of digital ledger, a ledger of transactions without the control of any central authority. All the transactions are stored in the form of blocks. Blockchain is the latest way of storing data and transactions. In other words, blockchain is a distributed record keeper to store transaction data without central man.

A blockchain is a chain of blocks of that grows as new data is added to the chain. Each "Block" contains a hashed key which links it to the previous block, a timestamp for when it was altered, and transaction data. Each transaction is verified by the minors and added to the block blockchain after consensus is reached on the validity of the action. This allows participants to place trust in their transactions even in the absence of a central authority, thus enabling disintermediation. Alternative approaches to validation can be implemented, depending on the implementations targeted.

A blockchain is inherently immutable - once recorded, data on the blockchain cannot be changed. In a blockchain to update an old record, the majority of the nodes must be agreed to change. Blockchain technology is one of the rising technologies now days. It may bring us more reliable and convenient Services. Blockchain is a bunch of technologies containing mathematical algorithm, Cryptography, peer-to-peer networks, distributed database.

Applications

Blockchain is a technology used for most of the digital currencies as a platform. Blockchain is not only for Bitcoin, it can be used to develop an application that can be used as a shared distributed database. Some of the applications are discussed as:

Blockchain for money transfer

The first and most commonly known applications of blockchain are use of it for the digital currencies.

Right now there are a number of crypto currencies like Bitcoin where ledger is maintained publically and without the control of any central power. It's secure from the attacks of malicious. Bitcoin works in a

fundamentally different way to the traditional system. Money transfer using blockchain is faster and cheaper than the traditional ways. Because it avoids the need of a mediator (third party).

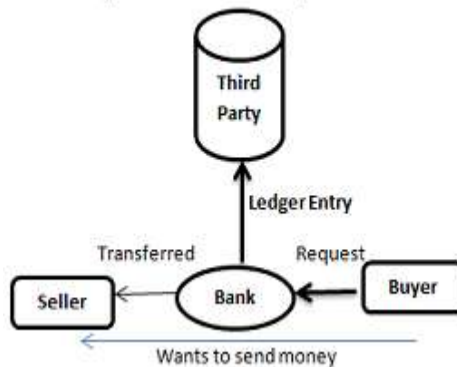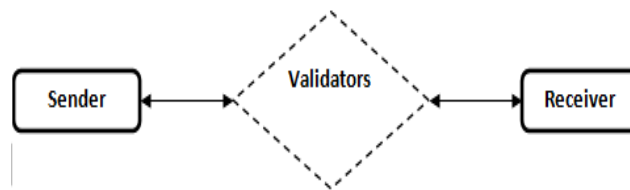Fig. 1: Traditional Money Transfer

Fig. 2: Bitcoin Transfer

Blockchain in Real State

In the real estate market there are a number of personal aspects that are to be kept secret to create a competitive market. Blockchain technology could enable the real estate market more transparent and free from mediator. Use of blockchain in real estate makes the work faster, easier, riskless, reducing fraud and providing more transparency. Blockchain as smart contracts can play a big role in real estate, especially in operations such as property transactions (purchase, sale, financing, leasing, and management).

Blockchain for Trade and Finance

Blockchain can be good to ease international trade. On worldwide level it's hard to find one centralized substance as a common point for everyone to work with. Blockchain-based supply-chain brings together all the participants. All the parties involving in an international trading such as importers, exporters, banks, shipping agencies, government agencies and other organizations can use a single platform i.e. blockchain. Blockchain technology can also support factoring. With blockchain, banks can be sure of the risk associated with duplicate and fraudulent invoices.

Blockchain in Supply Chain

Any system of transactions having transparency is to be considered as a very good system. A traditional supply chains lack transparency because of their complexity. Blockchain technology is having a great impact on business to create transparency. Now days organizations are accepting digital way of supply chains. New technologies, having great impact on the way of business. These techniques are fundamentally changing the way things are produced and distributed. In supply chain blockchain is being accepted day by day.

Blockchain for e-voting

The voting is an action or process of choosing a candidate from a number of candidates. In traditional voting system we use the ballot paper. In traditional voting system a voter has to go to a polling system to cast his vote. But to arrange a huge polling system is not an easy task, it requires a huge amount of time and resources such as money and manpower itself. The expenditures increase spontaneously as the number of voters increases. Fraud free voting plays an important role in constructing a democratic society.

Today we are living in an advance world. Technology is getting advance day by day. Electronic voting system is the latest invention of this technical world. Just in the few years e-voting system become too much popular because of its transparency, high security and privacy. Cryptography is used to make the system more secure. In e-voting system all functions are online and result is counted automatically. Compared with traditional voting, electronic voting is less time consuming and rate of accuracy is more. Use of blockchain makes it more transparent and secure.

Blockchain in Education

Blockchain is rising in techno world day by day. It's try to have a place in each and every field. It's being liked and people are showing their interest in it. Due to its nature of transparency, security and data sharing blockchain has become famous in techno world within a short time. The application of blockchain to education is a little bit new. Blockchain can be used to unite the records of large universities, small institutes, schools and online educational platforms to form a publicly verifiable chain.

Blockchain in Medical

There is a lot of manual data entry and a high risk of disagreement over liability. Blockchain has transformative potential for our health and care systems. Blockchain technology can also play an important role in healthcare also. Blockchain has transformative potential for our health and care systems. There are a number of use cases of blockchain in healthcare such as reimbursement of healthcare services, exchange of health data, clinical trials and supply chains. Although having a great impact in medical, this technology yet facing a number of challenges that are preventing the implementation of this technology in medical, such as data privacy and clinical trials. In addition, the use of public blockchains in healthcare remains a challenge. Trusted exchange of health data may lead not only to doing things differently, but also to doing new things.

II   CONCLUSION

The blockchain is the technology that makes it possible to store information without relying on a middle man. Our conclusions are that the blockchain is very useful and applicable in different areas where the solution is demanding safety, transparency, and effectiveness. Mainly, we identified the current and possible application areas of the blockchain, such as transaction of digital currencies, contracting, banking, voting, education, rent and selling cars, prognoses, music, networking and IOT, law and stock trading.

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