

Blockchain Technology

Aritrika Dutta
B. Tech Scholar

Department of Electronics & Communication
Vivekananda Institute of Technology
Jaipur, Rajasthan, India

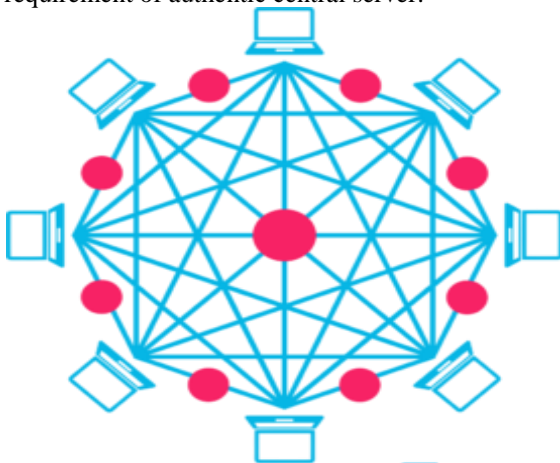
Naveen Dadhich
Assistant Professor

Department of Electronics & Communication
Vivekananda Institute of Technology
Jaipur, Rajasthan, India

Abstract: Blockchain technology basically is a decentralized ledger system and it has hugely changed the way we deal with currency. N-number of opportunities has been created for industries to deal with the problems related to data privacy, security, information sharing with the invention of blockchain technology. The traditional banking systems are all set to get replaced by blockchains. Blockchain technology allowed digital information to be shared but not copied and by doing this it has created the backbone of new type of internet. Blockchain is a unbribable digital ledger of economic transactions. It is a mechanism that brought everyone to the highest degree of accountability. Most crypto currencies use blockchain technology to record transactions. e.g bit coin network. Blockchain based Smart contracts could moderately be executed without human interaction. Three types of block chains are there- Public blockchain, Privsate Blockchain, Consortium Blockchain. One can distinguish between private and public blockchain simply by figuring out who is allowed to participate in the network. A public blockchain network is fully open and anyone can enter in the network. Bitcoin is one of the largest public blockchain network present today. The major advantages includes Greater Transparency, Enhanced security, Improved efficiency and speed and reduced cost.

I. INTRODUCTION

A blockchain consists of an emerging list of records called blocks. These blocks are connected using cryptography, each block containing a cryptographic hash of the previous block. A blockchain, in design hinders the modification of data. It acts as a open distributer ledger which can record transaction between two parties productively. When the data is recorded once it can not be modified in reverse manner without changing all the concerning blocks. The origination of blockchain for bitcoin solved the problem of double-spending making it the first digital currency without the requirement of authentic central server.



Types of blockchain

There are two types of blockchains-

1. Permissionless or open blockchain
2. Permissioned or private blockchain

1. Permission less Blockchain

The main advantage of an open, permission less network is that there is no need to protect against bad actors and any access control is not needed. This means that the addition of applications can be done in the network without the approval or permission of others.

2. Permissioned Blockchain

An access control layer is used in Permissioned Blockchains for surveillance of who has access to the network. On contrary to public blockchain networks, network owners evaluate the validators on private blockchain network. They do not depend on unknown nodes to approve transactions. The main disadvantage of this kind of blockchain is if one could destroy the blockchain creation tools on a private corporate server, they could effectively control 100 percent of their network and effect transactions however they want to.

The main difference between Traditional Databases and blockchain databases are

Client-server network architecture is being used by Traditional databases. In this a user or client has the access to change data that is then stored on a centralized server. A designated authority controls the database. Because this authority is responsible for regulation of the database, if the reliability of the authority is compromised, the data can be modified or deleted.

Various decentralized nodes had been used in blockchain databases. Each one of the node engages in management. For any addition to the blockchain, most of the nodes must be in harmony. The security of the network is guaranteed by this unison mechanism.

A main property of blockchain technology, that makes it different it from traditional database technology, is integrity and transparency.

HOW BLOCKCHAIN IS USED IN REAL LIFE-

Blockchain For Cryptocurrency

A very old digital currency problem known as the double spending problem that many other digital currencies tried to solve in the past is been solved by Bitcoin and Blockchain. Double spending refers to spending the same digital currency twice, and With the help of distributed consensus bitcoin solved this.

Another huge benefit that we as citizens are getting from crypto-currency is that blockchain technology provides us transfers can cross national boundaries in seconds that too with minimum fees, and without involving third-party entities such as banks.

Blockchain for Digital Identity

In every community and corporation the main necessity now-a-days is the need for a single centralized source of truth. A decentralized digital identity system basically is a source of truth where every single data element, such as user attributes and credentials, are included in the system only by distributed consensus.

Blockchain For Real Estate

The real estate industry deals with properties involving several parties and individuals, including owners, lenders, investors and service providers. The transactions that happens between these parties can cause disturbances with the existing traditional centralized systems. Blockchain technology offers the possibility to have a real estate system consisting of a very efficient search engine and lookup source for the current properties that are on sale.

REFERENCES

- [1]. <https://blockgeeks.com/guides/what-is-blockchain-technology>
- [2]. <https://www.coindesk.com/information/what-is-blockchain-technology/>
- [3]. <https://en.wikipedia.org/wiki/Blockchain>
- [4]. <https://www.investinblockchain.com/what-is-blockchain-technology/>
- [5]. <https://www.quora.com/What-is-blockchain-technology>

