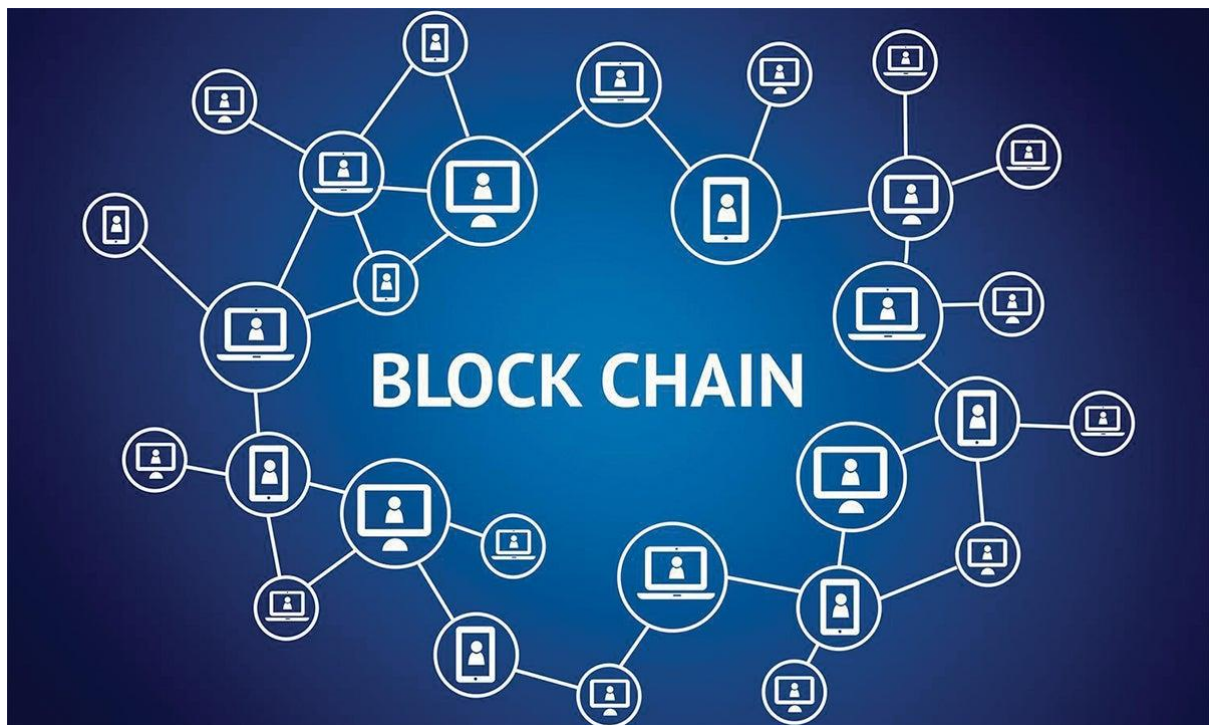


Evolution of Blockchain Technology :-

Date – 10/07/2022

Introduction :

Technology has now become an integral part of our lives as it is the reason for us to advance and move forward in life. One such technology is Blockchain. There are many upcoming tech- enthusiasts , leaders and innovations coming up but there are still some section of people who don't know the exact meaning of blockchain technology and its applications. The internet and technology is required for us in everything like education, travelling, shopping, health etc. There are many applications and uses of technology and internet theses days in many sectors and industries. Social media tools like Instagram, twitter and technological applications like Blockchain technology is currently ruling the world. This technology is becoming more popular these days.



Blockchain technology has come into the world after the introduction of cryptocurrency called bitcoin. This is an interesting topic as it has many applications, uses, pros and cons. Blockchain technology has become immensely popular after the origin of cryptocurrency and NFT's. It is also linked with banks and investment firms. Through this, we can get to know about the transactions we have made and details of credit and debits cards that we own. The process of maintaining the record of information electronically in a database is called as blockchain. Every computer is linked with this technology and cannot be ethically hacked.

Origin of Blockchain technology :

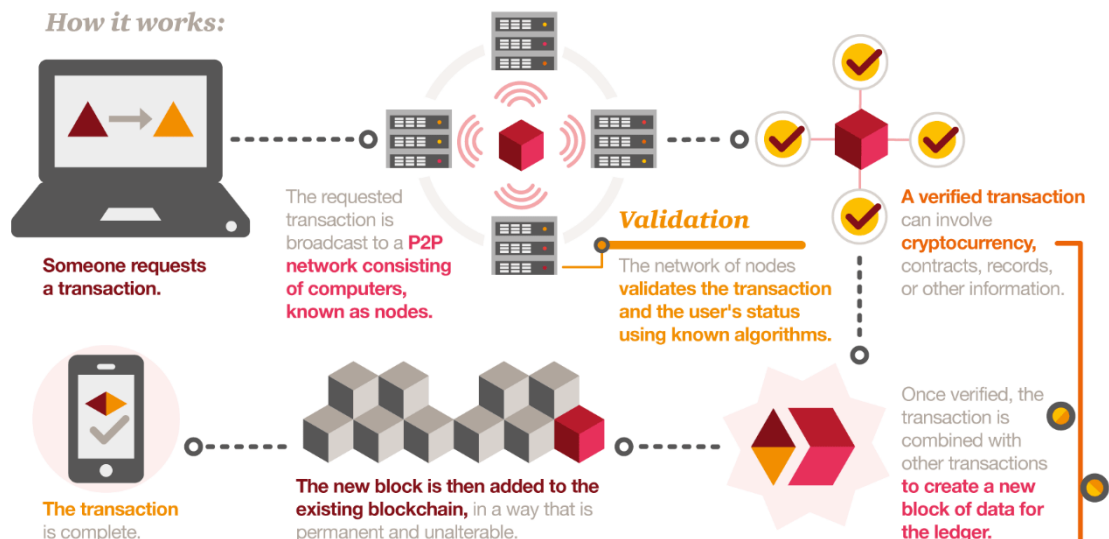
The idea of blockchain was first told by Cryptographer David Chaum in the year 1982. Two people named Stuart Haber and W. Scott were the first ones to start working on blockchain technology in the year 1991. This topic was again introduced to the public in the year 2008 by Satoshi Nakamoto. Initially, this topic was into two parts i.e Block and Chain. Later in the year 2016, the topic began to be known as “Blockchain”. We have seen the introduction and history of Blockchain technology. Now, let's see how does the system actually work ?

A look at *blockchain technology*

What is it?

The **blockchain** is a decentralized ledger of all transactions across a peer-to-peer network. Using this technology, participants can confirm transactions without the need for a central certifying authority. Potential applications include fund transfers, settling trades, voting, and many other uses.

How it works:



How Blockchain Works ?

Large amount of information is stored in databases. The whole blockchain system consists of blocks where it stores limited amount of data and information. New blocks are created after the information is filled in the blocks. Every block in blockchain has its own unique cryptographic data and links of the previous blocks. Any attempt to edit the data in the block creates a hash. The change in the hash of the blocks creates a link to another block which can be easily detected. There are specific terms and important points which you need to know about blockchain :

- Nodes – The people who connect to this system through their computers.
- Miners – These are the people who connect to the system and add information to the new blocks.
- The data stored in the blockchain can be easily accessed by computers but the privacy is maintained throughout the process.

Properties of Blockchain Technology :-

- Blockchain is a decentralized technology :- The records of information and data is stored in several excel sheets on the computers. Every user in this network has a copy of their information on their computers.
- A third party for this technology is not needed i.e there is no need of a third party to interact between the other two parties (The user and technology). The interaction and transactions can be easily managed and accessed with ease.
- Privacy is maintained and the information cannot be changed in the blocks. The change of data in the blocks is impossible as this will result in a hash between the blocks.
- The change can be detected easily. The information which is changed can be easily detected by other users in the network.

Classification of Blockchain technology :-

The blockchain technology can be categorized into four types :

- Public blockchain – As the name suggests “Public”, in this the information can be easily accessed and has no restrictions. The user does not need any kind of permission to access the information present in the blockchain. A best example of blockchain is Bitcoin.
- Private blockchain – This is exactly the opposite of public blockchain. In this system, the user have to seek the permission for accessing the information. This type of blockchain is only among the trusted members. This type of network is managed by different organizations.
- Hybrid blockchain – Again as the name suggests ‘Hybrid” , it means this type of blockchain is a mixture of Private and Public blockchain. The working of hybrid blockchain depends on the percentage of decentralization.
- Sidechains



Uses and Benefits of blockchain :-

- The blockchain enables us to view the information that we depend or rely on. Privacy is maintained as in the private blockchain, the information is transferred within a limited number of people and officials. This will be only possible if the permission is granted.
- The information and the transactions made cannot be altered and any change in the database can be easily detected. Thefts and hackers can be easily identified. This tells us that the technology is highly secure.
- The use of blockchain technology eliminates the presence of a third party system. No extra fee/charge is imposed on the person for transactions and storing the information.
- Btherefore it is an efficient application.

Limitations :-

- The storing of information and data in the technology and database requires a huge amount of power and electricity.
- The technology contains private keys which does not disclose the information to anyone. Therefore, we must not mingle with any third parties and the keys must be protected. Once the key is lost, it cannot be regained.
- The verification of transactions and information requires a lot of time and it is an exhausting process.

Applications :-

- A very common application of blockchain is Voting and Elections. The elections are carried out throughout the country every 5 years and there is a lot of chance of errors, bribes and cheating happening all around. Blockchain is used as a tool to remove all these frauds and ensure a safe and clean process.
- Reduces the number of cyber crimes.
- Cryptocurrency and NFT's



Conclusion :-

Blockchain is an emerging technology and is currently being used in the form of NFT's and cryptocurrency. This has a lot of scope in the future. There are many engineering degrees which gives you an idea about blockchain provided by the universities. So, why don't you try for a computer science with a specialization in Blockchain technology ? The aim of this is to prepare you for the jobs in the future and overall become a master as a Blockchain specialist. These days, it is also being used in many bank sectors and e-commerce. I have covered every possible thing related to Blockchain. I also hope you find this blog interesting !

WRITTEN BY KOTA SHASHANK