BLOCK CHAIN

Pillars

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This paper covers the basic idea of Block chain technology and pillars on which this technology is building up.

Block Chain

A decentralized ledger with the transaction records—

A humongous worksheet where every digital transaction is unique in its nature and which is added and updated by the users of the network.

The database which holds the information that is shared by all network nodes, continuously updated by users of the network, monitored by everyone whether it is offline or online, and its owner ship and control attained by no one.

Pillars of Block Chain

1) Replicated Information
2) Peer to Peer
3) Artificial Identification
4) Irreversible transactions
5) Customized development

Replicated Information/Distributed information/Mirroring information

Normally in tech savvy word distributed systems means a System which normally keeps the information over multiple database. Information/Data is broken down into multiple parts and is then places on servers scattered around.

But in Block Chain epitome of word distribution is used for REPLICATION or MIRRORING the information across various machines/Nodes. It is just like Replication of data across various servers through the production server.

Block chain uses distributed systems to save the information. The basic idea is to have a secure way to save the data so that it should not be hacked or cracked into. The user of BlockChain have their own Database in which set of all transactions is placed. The same copy of the database is also made available to other users databases. Thus it creates a failsafe procedure i.e. for every new transaction in blockchain will be replicated across the globe. In the other words if any person (Hacker) would want to corrupt the transactional data he/she needs to change the transaction information across Databases of various users; which makes system nearly invincible.

Common Sense Threat; *from the historical learning we may say that even the statement above is impossible by its implications. But if we look in past nothing is SECURE so although Impossible as it is sounds it would be doable with further advancements in hardware technology; such machines will attain the impossibility.*

Peer to Peer

Ever heard about torrents. No information is actually stored in any central location. Instead of it user gets the data as Leecher which sucks the information across the information from various nodes of the network thus distributing the load over various nodes.

Same concept is implemented in **BlockChain** technology. Every user is actually a NODE where transaction is perform then that transactions is leeched or replicated by the other users of the network.

Artificial Identification with pellucidity

In normal banking transactions normally have following set of SOP

1) Privacy of the information have highest priority
2) Sender and Receiver both know identities
3) Transaction is encrypted
4) Transaction can be tracked; like how much amount has been transferred between two parties
5) Charging fee is tax out

Whereas Block chain advocates

1) Providing the transactions publically
2) Sender and Receiver don't know the identities;(Secure Mechanism present)
3) Transactions are replicated
4) Transaction cannot be tracked back
5) No or minimal charging fee

Every user/node actually have address which is 30 Plus Alpha numeric string. Transactions between nodes occurred by using these addresses thus providing the Artificial Identification of parties and causing transactions to be pellucid across network.

Irreversible transaction

It is quite possible that during a banking transaction a user make an unintended transaction. He/She may call back the bank and can revert back the transaction. Whereas BlockChain strongly emphasize that transaction is should be permanent. Thus once you have transferred the amount between the two parties it won't be a reversal as it will be copied over varius databases. This actually creates a chain and this chain cannot be broken. In order to assure various algorithms are used to make a transaction permanent and properly order by date across the network users

Customized development

BlockChain allows and encourages users to write their own code for activates. Standard Protocols are in place which are actually controlled by the communities. Common examples are but not limited to; BitCoin, ethereal etc. Users can also develop their own mining algorithms for Mining of bitcoins.

Common terms

OpenLedger is a ledger which stores the information about each and every transactions occurring over the network. These transactions are recorded safely, permanently and efficiently.

What does it mean to be safely, permanently and efficiently?

Term **safely** means that transaction is safe. No one can corrupt it. It is due to the fact that since transaction is saved over the multiple distributed databases and if anyone over the network wants to change it then that user needs to updates the copies of the databases over the network.

Term **permanently** means that once transactions is made then the it won't be further altered; Like updated or deleted.

Term **efficiently** means that transactions are quick and over the net. These transactions tax out the cost of middle men.