Distributed Ledger

It is a ledger of transactions and records in a decentralized network which can be accessed by different people from different location. There is no central authority in this technology. The records are secured using cryptography and can be accessed using keys. Update in the ledger is synced to all participants within short time. The records include both tangible assets such as cars, houses and intangible assets such as reputation, votes, ideas, etc. across different area such as economics, finance, etc.

Blockchain

It is a distributed ledger open to everyone. In blockchain, a block consists of three components which are data, hash of that data and hash of previous block. Hash are useful to detect changes in a block. Since a block stores the hash of its previous block, a link / chain is formed. Apart from hashing, block chain has another mechanism for security which is called proof-of-work. This mechanism slows down creation of new block in chain. If a block is tampered, the proof-of-work of all the following blocks are recalculated.

Blockchain uses a P2P network where everyone can join and get a full copy of the blockchain. When a new block is created, it is sent to each node for verification and then added by everyone. All the nodes use consensus to separate valid and invalid blocks. Invalid blocks are rejected by all nodes in network. It can be implemented for various purposes such as storing medical records, collecting tax, digital notary, etc. (Savjee, Simply Explained -, 2019)

Bibliography

Savjee, S. E. -., 2019. *How does a blockchain work.* [Online]
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