An Overview of Blockchain Technology

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Abstract—Blockchain Technology is an emerging technology nowadays. The Blockchain was first used as a Peer-to-Peer ledger for registering Bitcoin transactions. The blockchain is a singly linked list which consists of a number of transactions. The blockchain is a decentralized distributed ledger which consists of a number of blocks organized in the form of a chain. A block in blockchain consists of two parts data and hash pointer. The first block in the blockchain is known as genesis block. The transactions and data in the block are secured by cryptography. The data inside a block in blockchain can be anything like bank transactions, backup data etc., which are recorded chronologically and publicly. The Hash pointer of a block is a unique code generated by a hash function like SHA256, SHA-3 etc., the hash function used in bitcoin blockchain. A block consists of a public key and a private key, using hash function digital signature is generated to the block. This is how the data inside the blockchain is so secured. The blocks are added into the blockchain by verifying the transaction in the block, the transactions are verified by miners. The miners use consensus algorithm to solve the blocks.

Key words: Blockchain, Bitcoin, cryptocurrencies, Proof-of-Elapsed, Federated

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