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THE DEVELOPING ROLE OF BLOCK CHAIN (R)EVOLUTION

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ABSTRACT

Technological innovations such as robotics, machine learning, cloud technology etc have established themselves very fast over the last few years and have now become a key element of the commercial and social economy. Similarly, block chain will also become a indispensable part of our lives in near future. Block chain is term that has come to us in many things to many people and captures the imagination and fascinates many. It is new class in information technology that is termly experiencing very rapid evolution. The implication of such technology are truly profound. It is a complex technological, economic and social phenomena. With the pace of just two or three years it is already gone through the changes in its technical implementation and what it is and can be.

KEYWORDS: *robotics, machine learning, cloud technology, database, remittances*

1. INTRODUCTION

Modern technology allows people to communicate directly, voice and video calls, emails, pictures and instant messages travel directly from one person to another across the globe maintaining trust between individual. But when it comes to money, people have to trust a third party to be able to complete the transaction.

The blockchain is much more than a technology, it is also a cultural and community that is passionate about creating a more accruable world through decentralization. It is a movement to disrupt the disrupter to redesign the internet and so doing shake up the existing centralized system.This Technology is challenging the status quo in a radical way by using math and cryptography. Blockchain provides an "open decentralized database" of any transaction involving value-Money, goods, property or even votes creating a record use authenticity can be verified by an entire community. The database consists of a string of blocks each one record data that is being encrypted and given a unique identifier called hash.

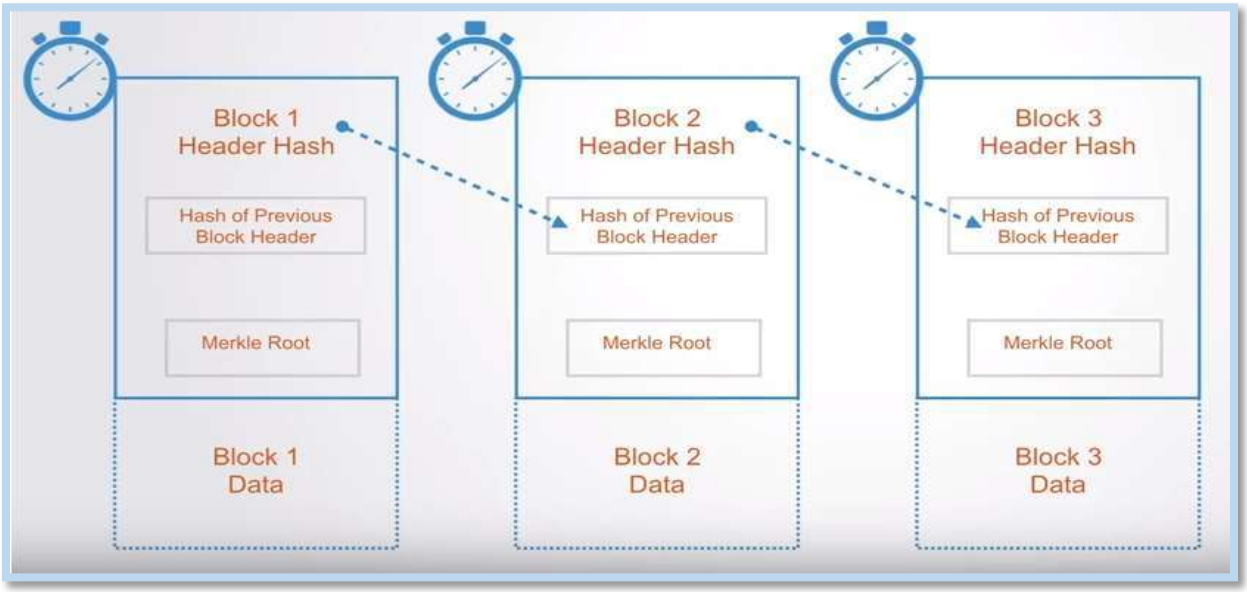
For Developers it is a set of protocols and cryptographic methods that enable a network of computers to work together to securely record data within a shared open database, for business and finance it is distributed leger in the technology underlying the explosion of new digital currencies, for technologist it is driving force behind the next generation of internet and for others it is a tool for radically reshaping the society in the economy taking us into a decentralized world.

With blockchain every agreement, every payment or any task would have a digital record or signature that could be identified, validated, stored and shared. The role of intermediaries banker or brokers might no longer be necessary. Transactions, contracts, records are among the defining structure in our economic, political and legal system. They establish and verify identities and chronical events and protect assets and all this is possible through Blockchain. The verification process hold the seeds of change across huge number of industries. The technology offers a choice to trust and enhance truth in every system to which it is applied. Both physical as well as digital assets could be uniquely verified online to prove ownership.Blockchain is a distributed ledger that stores public record which are unaltered. Each block is identified by a cryptographic signature which are back linked with the previous block in the chain and that chain can be traced all the way back to the very first block and each block contains a time stamp. We can only write data to the database and once it is there it is very hard to change, almost impossible. Data stored on the blockchain is generally considered incorruptible.

2. HISTORY OF BLOCKCHAIN

TheSatoshi Nakamotoreleased the whitepaper Bitcoin in 2008 which describes a “purely peer-to-peer version of electronic cash system” and from then the blockchain technology made its public debut. Blockchain is a technology that basically runs bitcoin has developed over the last decade into one of today’s biggest ground-breaking technologies with potential to impact every industry from financial to manufacturing to educational institutions. The bitcoin is used by millions of people now days for payments which include a large and growing remittances market.

With each and every year the size of the blockchain file was increasing rapidly starting from the year 2014 the bitcoin blockchain file reached 20GB that contained the records of the transactions over the network then in January 2015 the size had grown to almost 30GB and from year 2016 to 2017 the size grew from 50GB to 100GB. The first version of blockchain that came into the market was 2.0 which described the distributed database of the new applications over the network and the implementation of this version came with a programming language that allows user to write more sophisticated contracts, thus creating invoices that pay themselves when a shipment arrives which automatically send their owners dividend if profits reach at certain level.



At its core blockchain is an open digital decentralized ledger that records transactions between two parties in a permanent way without needing the authentication of another party and this builds a digital trust over the network as no one can remove this

information. There was surge of investment by the entrepreneurs who understood the concept behind blockchain and then the discovery of blockchain could impact healthcare, transportation, voting etc. Currently nearly 15% of financial institutions are using blockchain technology. The blockchain is working on the proof of work concept that defines the expensive calculation or mining done by the computer in order to create a block. The transaction that we make are bundled into a block. The miners verify these transactions which are bundled within a block by solving the proof -of -work problem which is a very difficult mathematical problem that takes an extraordinary amount of computing power to solve.

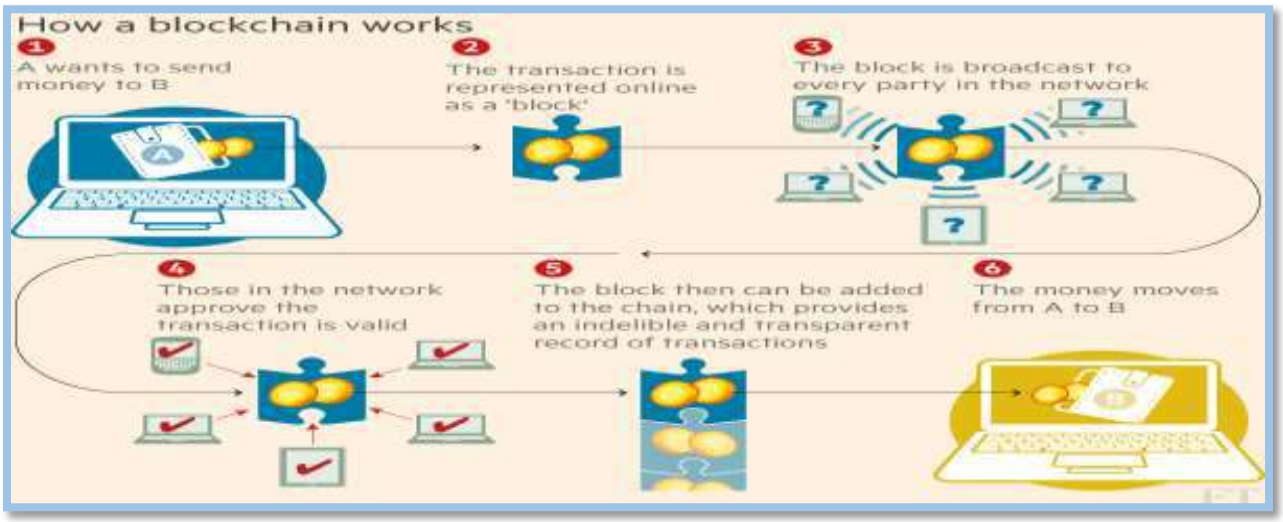
3. WORKING OF BLOCKCHAIN

"A blockchain is a magic computer that anyone can upload programs to and leave the programs to self-execute, where the current and all previous states of every program are always publicly visible, and which carries a very strong crypto economically secured guarantee that programs running on the chain will continue to execute in exactly the way that the blockchain protocol specifies."

One Bitcoin is a single unit of Bitcoin digital currency. Just like dollar it has no value and so to keep track of the amount of Bitcoin, a larger – a digital file that keep tracks of all the transaction that is used.The ledger is distributed across the world through the network of private computer and is not stored in a central entity. If one person wants to send a bitcoin to another person, he sends a message to network to send a particular amount of BTC to another. This is done by 'node' which will receive the message and apply the requested transactions to their copy of the ledger.

In order to store and exchange the bitcoin so that one can do the transaction a wallet is required. Each wallet is protected by a special cryptographic method that uses a unique pair different but connected keys i.e. public key and private key. With this key, only the owner can decrypt a message coming from public key. Each node in the network can cross check that the transaction is coming from particular person by decrypting the transaction request with the help of public key. Also while encrypting a transaction request from the wallet using private key one I generating a digital signature that is used by a blockchain computers so as to double check the authenticity of the transaction .In case if anyone needs to check the balance thus we have to analyze and verify all the transactions that ever took place on the whole network connected to the wallets as neither the blockchain system nor the ledger keeps record. But is this system safe from hackers? Blockchain's decentralized and cryptographic nature allows people to trust each other and transact peer to peer.

Hacking attacks impacts large centralized intermediaries like bank but in case of blockchain it would be virtually impossible. For example if someone tries to hack into a particular block in a blockchain, then a hacker would not only need to hack a particular block but all the proceeding blocks going back to the history of that blockchain and thud needs to be done on every ledger in the network which could be millions simultaneously and this would become very difficult for the hacker.



4. FUTURE SCOPE

Blockchain eliminates the need of third party to authenticate the transaction. A traceable global currency which is transparent and a self-auditing ecosystem of digital value will not only result in massive cost reduction, it will change global banking also. Analyst anticipated that the global currency will witness a spike in its demand as this technology have the potential to reduce cyber risks as it offers identity authentication .

Blockchain with an efficient infrastructure could being transparency and robustness. The banks could become the "custodians of cryptographic key". This technology has the potential to create how scope and opportunities for industries and disrupt the existing technologies. In many countries Bitcoin and cryptocurrencies could dominate due to its increase in speed and efficiency in transactional activities. The rising security concern for banks for transactions and payments is also a major reason for the growth of technology. In 2017 a group of leading companies across the globe intended to further strengthen the consumer confidence. The market of BCT appears to be very competitive and so to maintain their market position various dynamic and diversified interna.org, domestic.org, form a competitive landscape.

CONCLUSION

Blockchain technology could be another case where an adaption of an original invention goes beyond on to ellipse its original function. Today the internet's spectacular rise leaves people wondering how they could ever live without it. Will this technology would work in future or will become obsolete?

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