iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 8 **Issue:** V **Month of publication:** May 2020

DOI: http://doi.org/10.22214/ijraset.2020.5424

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 8 Issue V May 2020- Available at www.ijraset.com

The Overview of Blockchain Technology and it's applications in Diverse Sectors

Ms. Sushma. A[1], Vamsidhar. A[2], Sudhanva. J[3], Bhagavath Kumar. M[4]
[1]*Assistant professor,* [2,3]*B.Tech. Student, Department of Information science and Engineering, Nagarjuna Collage of Engineering and Technology, Bangalore*
[4]*B.Tech. Student, Department of computer science, Nagarjuna Collage of Engineering and Technology, Bangalore*

Abstract: ***Technology is the major categories which we are exceling in as we develop our brain from primes to alpha being. During this advancement phase we found a more robust platform for exchanging and storing information that's blockchain. Blockchain could be a decentralized approach to the creation and management. Many sector like banks, internet companies, manufacturing, education and even Government. Across the world everyone are started using blockchain to enhance security, scalability and efficiency. In this paper we present the compressive classification of blockchain application in numerous areas like healthcare, education, IOT, copyright protection, energy and data management. Our works provides the short summary on blockchain application.***

Keywords: Blockchain, Blockchain and its applications, decentralized, robust platform.

I. INTRODUCTION

Blockchains are now most talked technology in the news worldwide. Thier need already been adopted in many applications of assorted domains as decentralized approaches to fraud-resistant computing without a trusted authority. A blockchain could be a chain of blocks during which the data of all the transactions is registered and maintained in a very distributed public ledger across number of computers in a very peer to look network .During this paper, we survey blockchain usage in numerous areas including cryptocurrency, healthcare, advertising, copyright protection, energy, and societal applications.

The primary mission of blockchains is to establish a credit worthy ecosystem among independent participants in a very non-trustable distributed environment. A blockchain system is secure , peer–peer nodes, consensus-based ledger mechanism, anonymous users, self-regulated data ownership, and programmable smart contracts. Furthermore, the devoted credit mechanisms are required to form blockchain systems to be credit worthy although blockchains provide a creditworthy infrastructure for data-level storage and operations.

II. APPLICATIONS OF BLOCKCHAIN

A. Health Sector

Health care is one in all the key aspects of a country in term of social well-being.Good healthcare is center for human happiness and well-being. It also makes a very important contribution to economic progress and more productive. The info regarding the health of the patient's plays important role within the treatment. In most of the countries we've got Health Information Exchange (HIE) where information of the patients is shared between the hospitals. The scattered medical records caused by the transfer between different medical institutions became a core problem that hinders healthcare Information Technology. Blockchain provides a chance to form a platform to trace personal health records and also securely ease the transfer of patient records among health system both national and international and boost the coordination of health sector , lower transaction cost, risk and even support medical tourism.

Matthews claims that the mixture of computing and blockchain could lead on to supply solutions for healthcare problems. However, so as to attain these amazing visions, additionally to technical barriers like accessing and storing data to the blockchain, we should always also check up on policy and privacy issues.

B. Education Sector

Despite of latest IT technologies and noteworthy developments in robotics and Internet ,human resources are still the foremost precious resource to almost any businesses. In all of the world's developed countries, the sector of education could be a central focus. the longer term of other important areas, including science, medicine, agriculture, industry relies on the country's education levels. Nowadays, the sector of education in need of central authorities to specialize in checking certificates. Every day, educational institutions and additional training course centers need to process thousands of applications from varies educational organizations for sending copies of documents.

©IJRASET: All Rights are Reserved

Paper based diplomas, school and training course certificates may stray over time and might be duplicated with present technology. so the institutions want to make sure the person has after all graduated from a specific university. With the blockchain, the data of student's grades and also the courses that are undertaken won't stray, and it's impossible to vary or fake the data and also one can easily access this information with the owner's consent. Blockchain goes to form communication within the field of education simpler, and personal. Many educational institutions are preparing to implement blockchain-based tools, and that they are conducting research to spot the advantages of implementing blockchain technology in education. It would achieve success because it'll filter the less qualified doctors, lawyers, engineers, economists and other popular occupations.

C. Business Applications

The blockchains are applicable in many business.Bussiness mainly depend upon data of the market and informaion what we've got.International trade could be a $16 trillion market that accounts for the exchange of capital, goods, and services across international borders or territories.It is divided into two catagerioes 75% various goods typically shipped by shipping containers or ground transportation, 25%commodities public safety, which allows people to have high-value and daily transactions online.

By see this big figure of 16 trillion we predict profits are high we are wrong they're many loop hole in this industry as we are stilling using paper work as we lack trust in human and frauds are being anticipated like double financing.It takes 90-120 days to book the shipping of a commodity, request trade financing, collect documents, provision the documents to buyers, and facilitate payments. These complex processes and high operational costs delay in innovation for the complete industry and cause billions of dollars worth of annual losses in income and opportunity. Using blockchain we are able to reduce the frauds as it's immutable and tamper proof and track the real timer transitions.A digital identity blockchain ecosystem is developed to form secure and trusted digital identities to reduce frauds and improve.

D. Energy Sector

The trading of energy and commodities, even the simplest transactions, From the execution to the conclusion of the transaction, both the parties should coordinate and verify the transaction data.also the industries have to interact with other counterparties,banks, regulators and price reporters. the verification process has to be carefully coordinated not only between the 2 parties of the transaction, but also within the corporate to take care of manual processes between different departments to confirm an accurate view of the complete transaction process.

E. Smart Contracts

The platform that works on blockchain can use virtual assets as collateral, not only to stop discounts on physical items, but also to cut back the credit cost. there's no must show the lender credit or work history and various documents.The blockchain not only waives the necessity for third parties, but also ensures that every one ledger member know the contract details which contractual terms implement automatically once conditions are met. smart contracts may also be used for all type of situations, like financial derivatives, insurance premiums, property law, and crowd funding agreements, among others.

F. Blockchain Music

In both the record era and the digital music era,the key problems within the music industry include copyright issues, ownership rights, royalty distribution, and transparency. The digital music industry are focusig on productions, as well as trying to secure onwership rights.By the block chain solves this problem by creating a comprehensive and accurate decentralized traceable music copyright database via blockchain and smart contract. Further, you'll be able to even send revenue to both the copyright owner and therefore the musician in real time as consumer behavior occurs.at the identical time it also provide transparent transmission of artist royalties and real time distributions to all or any involved within the labels. Artists would be paid with digital currency according to terms of the contract.

G. Car / Smartphone

For an example, a car key with an anti-theft device can only be activated after you click on the proper protocol on the key. The smartphone will only work if you enter the proper password. They're towards encryption technology to guard ownership. The matter with the orginial form of intelligent property is thst the key is kept in physical container and can't be easily transferred or copied. The blockchain ledger solves this problem by allowing blockchain miners to modify and duplicate lost protocols.

©IJRASET: All Rights are Reserved

III. BLOCKCHAIN GOVERNMENT

Computer scientists say hackers can rig the electronic system to govern votes within the election, but With the blockchain and smart contracts, the votes become encrypted the ledger would prevent the manipulation of votes. Private individuals can confirm that their votes were counted and ensure who they voted for. The blockchain ledger, also, provides a platform for what we call "responsive, open data." additionally, a major amount of the annual government budget is employed to verify the flow of funds, and therefore the use of blockchain technology can greatly simplify the method. Blockchain will be self-managed by providing a platform for companies, foundations, government agencies and individual citizens.

A. Cryptocurrency

Blockchain shock up the globe and everybody came to understand its existence because it entered the financial sector in late 2009. especially within the field of cryptocurrency. cryptocurrency brings acceptance and prosperity of the blockchain-based technologies, because the blockchains provide secure, open, and decentralized transaction infrastructure for Crypotocurrency. At the same time, many cryptocurrencies have emerged with improved features and constitute the present booming cryptocurrency market. Among them, Ethereum created a public blockchain platform during which smart contracts will be deployed in 2015.

Since then, thousands of Bitcoin-derived projects are launched. they're many ICO (Initial Coin Offering) who are striking for excellence and balance in cryptocurrency in present world. Recently, two influential projects, the Libra by Facebook and the DCEP by financial organization of China, are announced to be launched. the 2 projects provide anonymous digital wallets with no checking account and make new electronic payment infrastructure across the globe. The Libra is announced as a new model of cryptocurrency built on a secure and stable open-source blockchain, backed by a reserve of real assets, and governed by an independent association. The DCEP currency is issued and endorsed officially by China financial organization. Many banks like Fidor bank, a web bank in Germany the primary mainstream bank to experiment with virtual currency and blockchains.

B. Copyright

The development of the web are in the midst of copyright issues regularly.From the attitude of a file holder, copyrights are often ignored or under some attacks. Therefore, unauthorized file-sharing which is illegitimate and use of content of copyrighted files remains a major problem.Blockchain technology plays a vital role during this type of issue.Blockchain could be a decentralized, distributed digital ledger of records.If a file is duplicated many times across the network, the Blockchain is designed to regularly update and reconcile all the copies so that that all records are consistent.

IV. CONCLUSION

While blockchain has been widely used, many issues have yet to be addressed. By doing so, blockchains will become not only more scalable and efficient but more durable likewise. The features they provide don't seem to be unique if judged individually, and therefore the bulk of the mechanisms they're supported are well-known for years. However, the mix of of these features makes them ideal for several applications justifying the extreme interest by several industries.In this work, we survey blockchain usage in several sectors which makes advancement by using Blockchain. Our paper presents a timely summary for entities with an interest in blockchains. As blockchains erupt as a best platform for data storing,sharing and security,their applications are yet to penetrate more industries/domains than those covered in our survey.

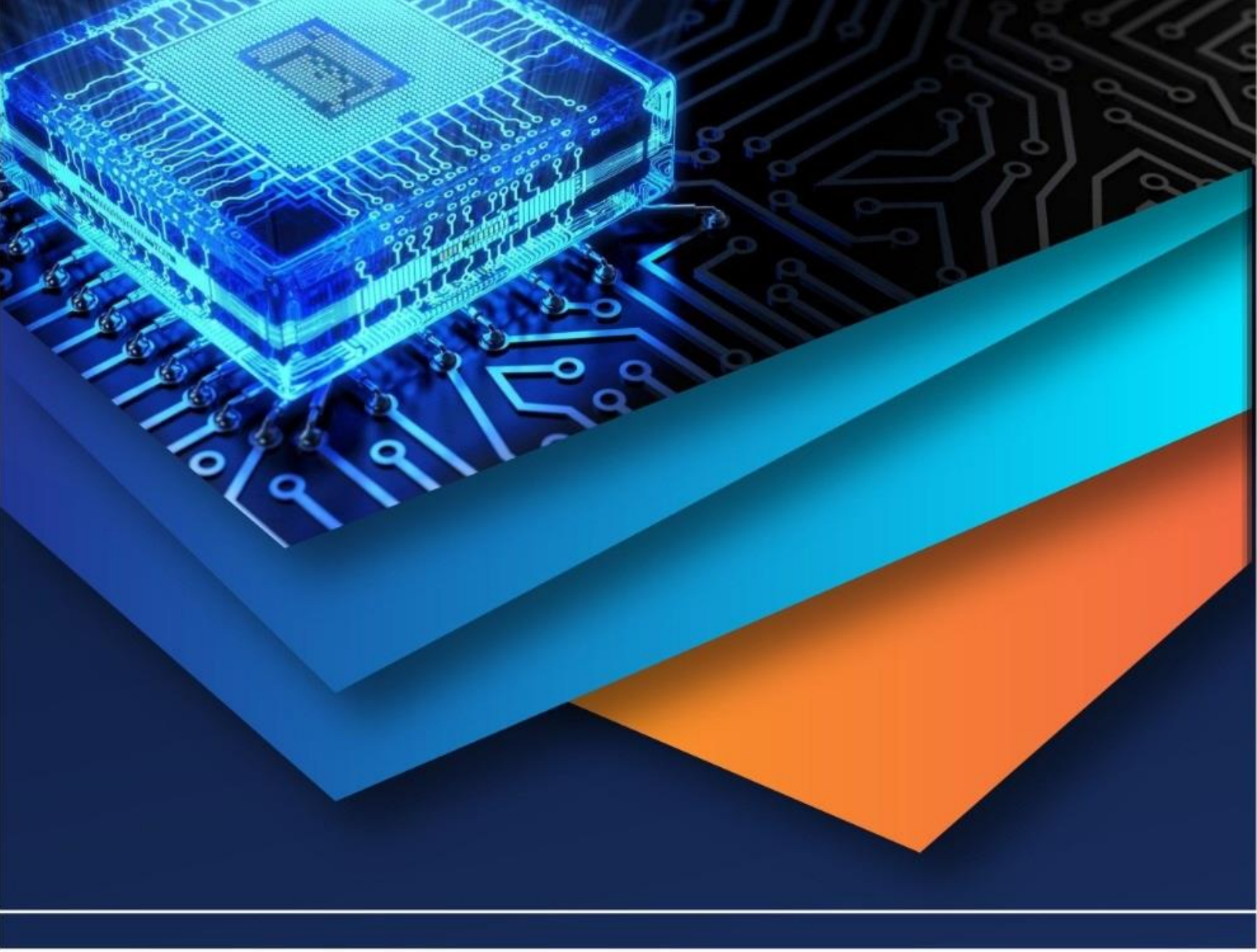
REFERENCE

[1] Blockchain: Opportunities for Health Care https://www.healthit.gov/sites/default/files/4-37-hhs_blockchain_challenge_deloitte_consulting_llp.pdf.
[2] Lin, I. C., and Liao, T. C. (2017). A Survey of Blockchain Security Issues and Challenges. IJ Network Security, 19(5), 653-659.
[3] Wang, W., Hoang, D. T., Xiong, Z., Niyato, D., Wang, P., Hu, P., and Wen, Y. (2018). A Survey on Consensus Mechanisms and Mining Management in Blockchain Networks. arXiv preprint arXiv:1805.02707. https://arxiv.org/abs/1805.02707
[4] Conoscenti, M., Vetro, A., and De Martin, J. C. Blockchain for the Internet of Things: A systematic literature review. In IEEE/ACS International Conference of Computer Systems and Applications (AICCSA). 2016.
[5] Guo, Y., and Liang, C. (2016). Blockchain application and outlook in the banking industry. Financial Innovation, 2(1),
[6] A Next-Generation Smart Contract and Decentralized Application Platform https://github.com/ethereum/wiki/wiki/White-Paper
[7] A tutorial on blockchain and applications to secure network control-planes3rd Smart Cloud Networks and Systems, SCNS 2016 (2016)G.S. Borioli, J. Couturier
[8] How blockchain technology can improve the outcomes of clinical trials British J. Health Care Manage., 24 (3) (2018), pp. 156-162
[9] Fran casino, constantinos patsakis, systematic literature review of blockchain-based applications: Current status, classification and open issues, Telematics and Informatics, volume 36, March 2019, pages 55-81.

©IJRASET: All Rights are Reserved

[10] Ali Alammary * , Samah Alhazmi, Marwah Almasri and Saira Gillani Blockchain based application in education A systematic review,Appl. Sci. 2019, 9, 2400; doi:10.3390/app9122400
[11] Collins, R. Blockchain: A new architecture for digital content. EContent 2016, 39, 22–23.
[12] Blockchain in energy sector and it's application
https://consensys.net/blockchain-use-cases/energy-and-sustainability/
[13] Application of blockchain in sustainable energy system
https://www.mdpi.com/2071-1050/10/9/3067/htm
[14] Rewire your industry with IBM blockchain
https://www.ibm.com/downloads/cas/D9KWXMDW
[15] Blockchain for global trabe and commerce
https://consensys.net/blockchain-use-cases/global-trade-and-commerce/
[16] Blockchain use cases and application by industry
https://consensys.net/blockchain-use-cases/
[17] How blockchain can be used to protect intellectual property
https://99designs.com/blog/freelancing/blockchain-protect-intellectual-property/

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)