iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** V **Month of publication:** May 2022

DOI: https://doi.org/10.22214/ijraset.2022.43324

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: 7.538
Volume 10 Issue V May 2022- Available at www.ijraset.com

Developing a Reliable Service System for Charity Donation

Prof. R. M. Kawale[1], Swapnali Salunkhe[2], Vishakha Modi[3], Sakshi Pawar[4]
[1]*Assistant Professor, Dept. of Information Technology, Pune District Education Association's College of Engineering, Pune, Maharashtra, India.*
[2, 3, 4] *Students of Bachelor of Engineering, Dept. of Information Technology, Pune District Education Association's College of Engineering, Pune, Maharashtra, India*

Abstract: ***Zeroing in on the covering spaces of the co-ordinations business with countless mature blockchain applications and the public government assistance industry that requires high straightforwardness and believability, this paper plans and carries out an inventive charity co-ordinations stage dependent on blockchain innovation through the ethereal stage. Our foundation utilizes the open, straightforward, and unavoidable elements of the blockchain, joined with a one of a kind Responsibility Relay System and Evaluation and Reporting Mechanism, and can accomplish the consistency of the information on the chain with true status, just as the credibility and straightforwardness of magnanimity co-ordinations information. This paper likewise sets up a model for assessing magnanimity material gifts for social government assistance dependent on the exemplary organization's most extreme stream calculation. Following four months of observational investigation, we have inferred that the blockchain stage can enormously expand the client's confidence in the venture, upgrade the framework's neatness coefficient and increment the nature of generously raised materials, consequently working on the public government assistance of beneficent gifts. The paper reaches the inference that this blockchain stage is a specialized answer for augmenting social government assistance.***

Keywords: Data Security, Smart Contract, Charity Application, Algorithm AES, Blockchain technology.

I. INTRODUCTION

Resisting major disasters has become a common global topic, and strengthening the governance of them is an essential field of charity. With the outbreak of the Novel Coronavirus (Covid-19) epidemic all over the world, it has made a significant impact on people's social production and daily life, and post epidemic assistance is particularly urgent[1].Promoting public participation in charity donations has become an urgent social problem. With the rapid, widespread and long development cycle, the immediate demand and reasonable allocation of funds and materials have become a significant problem faced by the global fight against the epidemic. Blockchain technology ensures the credibility of the process through the Peer-to Peer (P2P) network, consensus mechanism, incentive mechanism, and smart contract [2]. It can establish an efficient connection between charitable organizations and beneficiaries, can respond quickly and form a more open and transparent trust mechanism, and can solve the unprecedented problems brought about by the massive demand for donation in the new epidemic [3]. Now a days many NGO requests for donations to users. User should know where they are donating right NGO or not. Many NGO are taking donations as money from user. So we are developing transaction system for user and NGO with data security using smart contract.

II. GOALS AND OBJECTIVES

1) The objective of the proposed system is to provide Data security for charity donation.
2) Try to improve Transparency between NGO and user.
3) Another objective is to provide data recovery for charity donation system.
4) The objective behind this system is to invent online platform which will help to connect multiple users.

III. RELATED WORK

Each block is a linked data structure in the form of a linked list. The data in the block cannot be tampered but can be verified in the system, and they can be stored safely in a sequential relationship. Data are distributed through an extensive, distributed, and incorruptible network of computers, allowing us to interact with stored data timely, without direct intermediaries and reliance on conventional, proprietary, closed, and hard-to-control IT infrastructures[5][6].. Blockchain provides a new independent [7] [8].

Despite all kinds of problems in the donation process, the popularity of non-governmental charitable organizations continues to grow, and the number of organizations and individuals involved is also increasing. [9]In terms of equipment and technical feasibility, Ethereal has formed a well-functioning blockchain application and development platform, which is well-recognized, mature, and stable in Technology [10]. There are many development frameworks and software tools will complete development language and debugging tools, to reduce the demand for high-performance equipment and other hardware investment. The system is primarily based on the Web application of blockchain, which is easy to develop and to be used. The service system can promote the information exchange and information sharing among users, establish and play a role through the help-seekers, project administrators, donors, financial administrators, system administrators and other business modules at all levels, so as to make the charity donation projects run efficiently, get adequate supervision, and give full play to the rescue role in time[4].

IV. LITERATURE SURVEY

S. NO	TITLE	ADVANTAGES	DISADVANTAGES
1	Public Philanthropy Logistics Platform Based on Blockchain Technology for Social Welfare Maximization	High security	No implementation for money transaction
2	Research on Charity System Based on Blockchain	Research done on various methodology	No implementation
3	Tracking Donations of Charitable Foundations Using Blockchain Technology	Provide tracking system of donation to user	High cost implementation
4	Blockchain based Trusted Charity Fund-Raising	Implement for money transaction	Less security

V. METHODOLOGY

The service system can promote the information exchange and information sharing among users, establish and play a role through the help-seekers, project administrators, donors, financial administrators, system administrators and other business modules at all levels, so as to make the charity donation projects run efficiently, get adequate supervision, and give full play to the rescue role in time. The most important advantage of choosing blockchain technology to design and develop the charity donation service system is procedural and long-term credible, to ensure that charity donation can play an expected role. Charity donation service system integrates mature software development technology, which can support the development. And operation of the system well and can be most reliable to help donation services under the Covid-19 epidemic.

VI. ARCHITECTURAL DESIGN

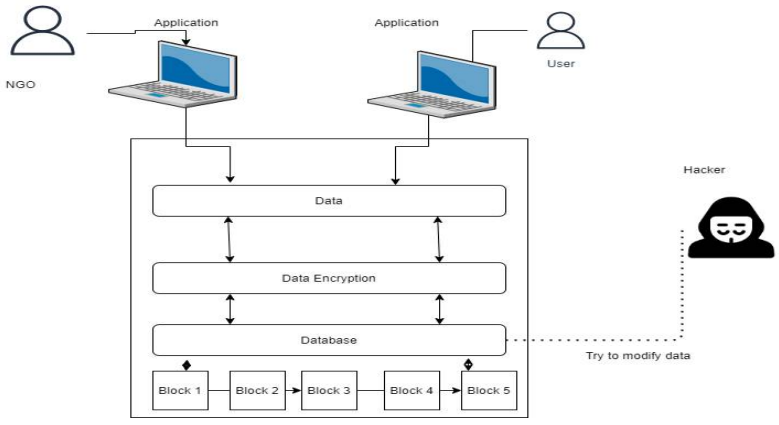


Fig. System Architecture

A. Technology Used

1) Algorithm

SHA-3(Secure Hash Algorithm-3)

SHA-3 (Secure Hash Algorithm 3) is a set of cryptographic hash functions defined in FIFS-202: SHA-3 Standard: Permutation-Based Hash and Extendable-Output Functions.

The SHA-3 family consists of six hash functions with digests (hash values) that are 128, 224, 256, 384 or 512 bits: SHA3-224, SHA3-256, SHA3-384, SHA3-512, SHAKE128, and SHAKE256.

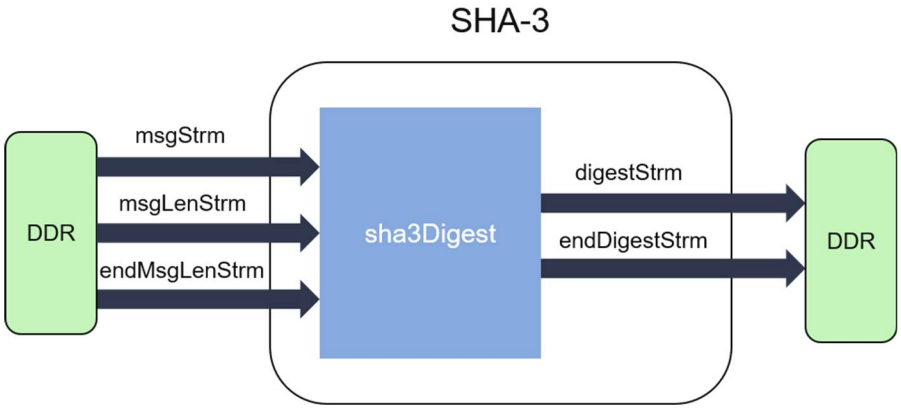


Fig.SHA-3 Algorithm

SHA-3 provides a secure one-way function. This means you can't reconstruct input data from the hash output, nor can you change input data without changing the hash. You also won't find any other data with the same hash or any two sets of data with the same hash. As an example of how SHA-3 works, let's consider an end application that, at a system level, features a peripheral or slave accessory that integrates a SHA-3 authentication IC and a host controller with a SHA-3 coprocessor or microcontroller.

Fundamental elements in SHA-3 authentication model-

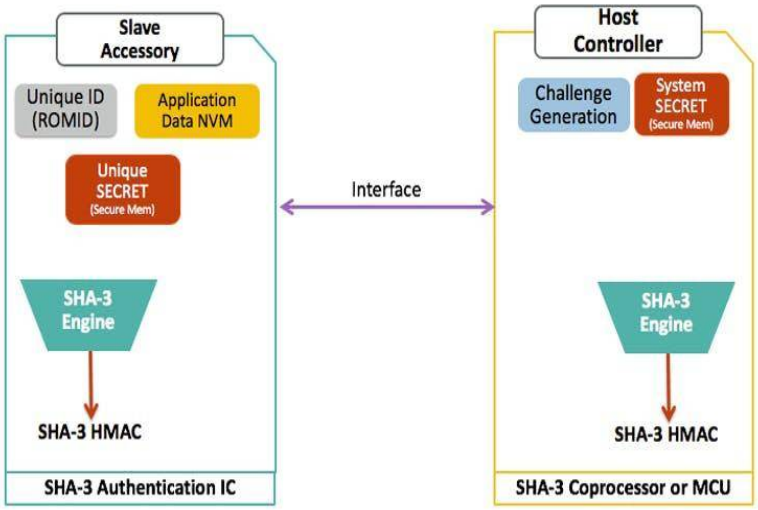


Fig. Fundamental elements in SHA-3 authentication model

The slave accessory has a unique secret and the host controller has a system secret. In the authentication process, the first step is for the host to securely compute the unique secret that's stored in the slave IC.

To do this first step, the host requests the ROM ID from the slave and inputs it, along with its own securely stored system secret and some compute data, into its own SHA-3 engine. Next, the engine computes a SHA-3 hash-based MAC (HMAC) that's equal to the unique secret stored in the authentication IC. Once it securely derives the unique secret in the slave IC, the host controller can perform various bidirectional authentication functions with the authentication IC.

VII. EXPERIMENTAL RESULTS

The introduction of blockchain technology has thus emerged to address cross-regional and cross-domain charity donations issues. The blockchain technology can be used for protecting the data security, defining access policies, ensuring the transparency of donations, and traceability of donation behaviors. The ultimate goal of our research is to fulfill that blockchain supported solution taps into the integration of traditional web service and blockchain technology, speeds up the system development and then responds to the needs of users in a timely fashion. . As the transaction voucher of the system, cryptocurrency can thus ensure the security of transaction records, identity data, and relevant details. It is powered to monitor the process of capital flow and improve the functional network chain of relief materials. Handling capability of material supply, and establish a charity donation service system with sustained innovation in framework, technology, and operation. Blockchain has receiving more attention in the charity donation system in sharing donation data, in managing information among donors and beneficiaries, in contract management among charitable organizations and enterprises, and its application in dealing with donations.

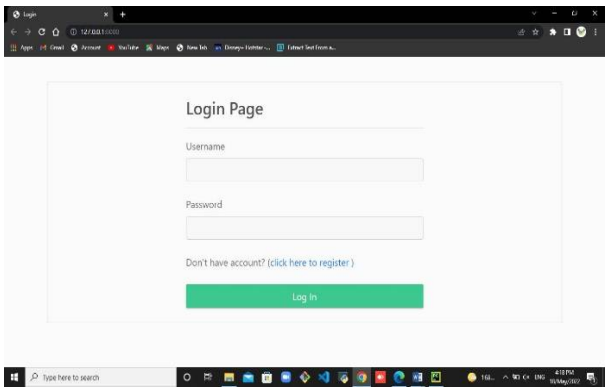


Fig. Login page

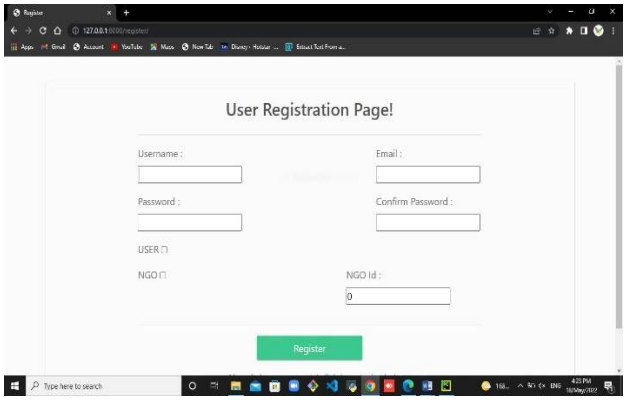


Fig. Registration Page

Fig. Profile Page1

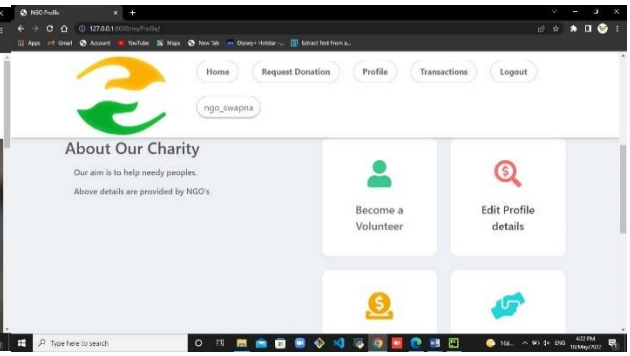


Fig. Profile Page2

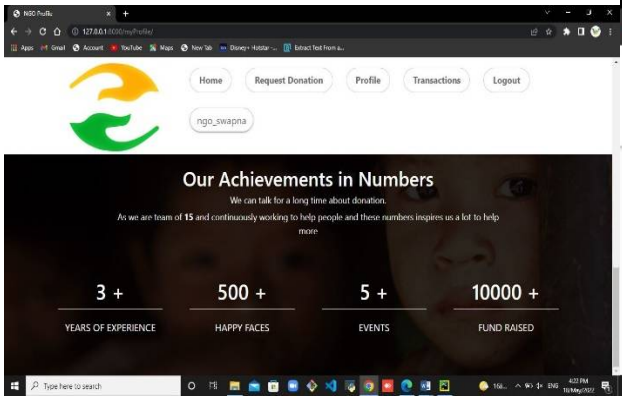


Fig. Profile Page3

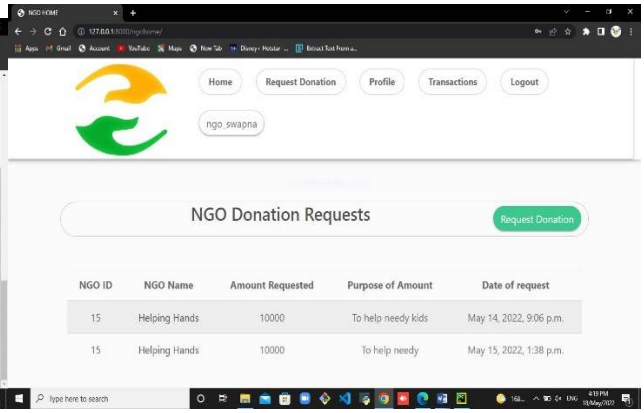


Fig. NGO transaction history page

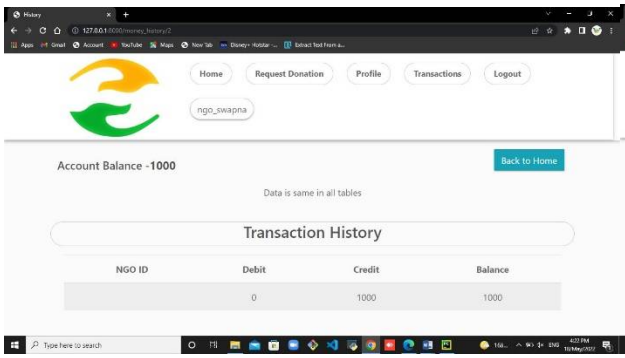


Fig. User transaction history page

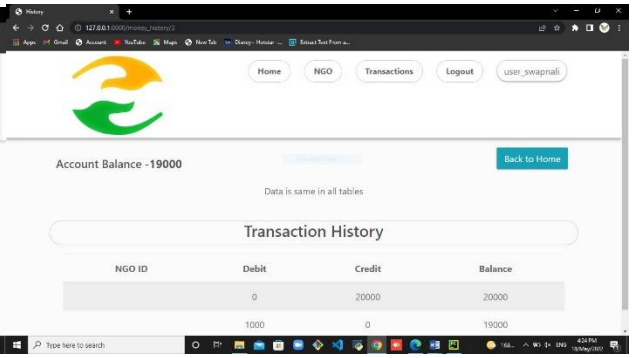


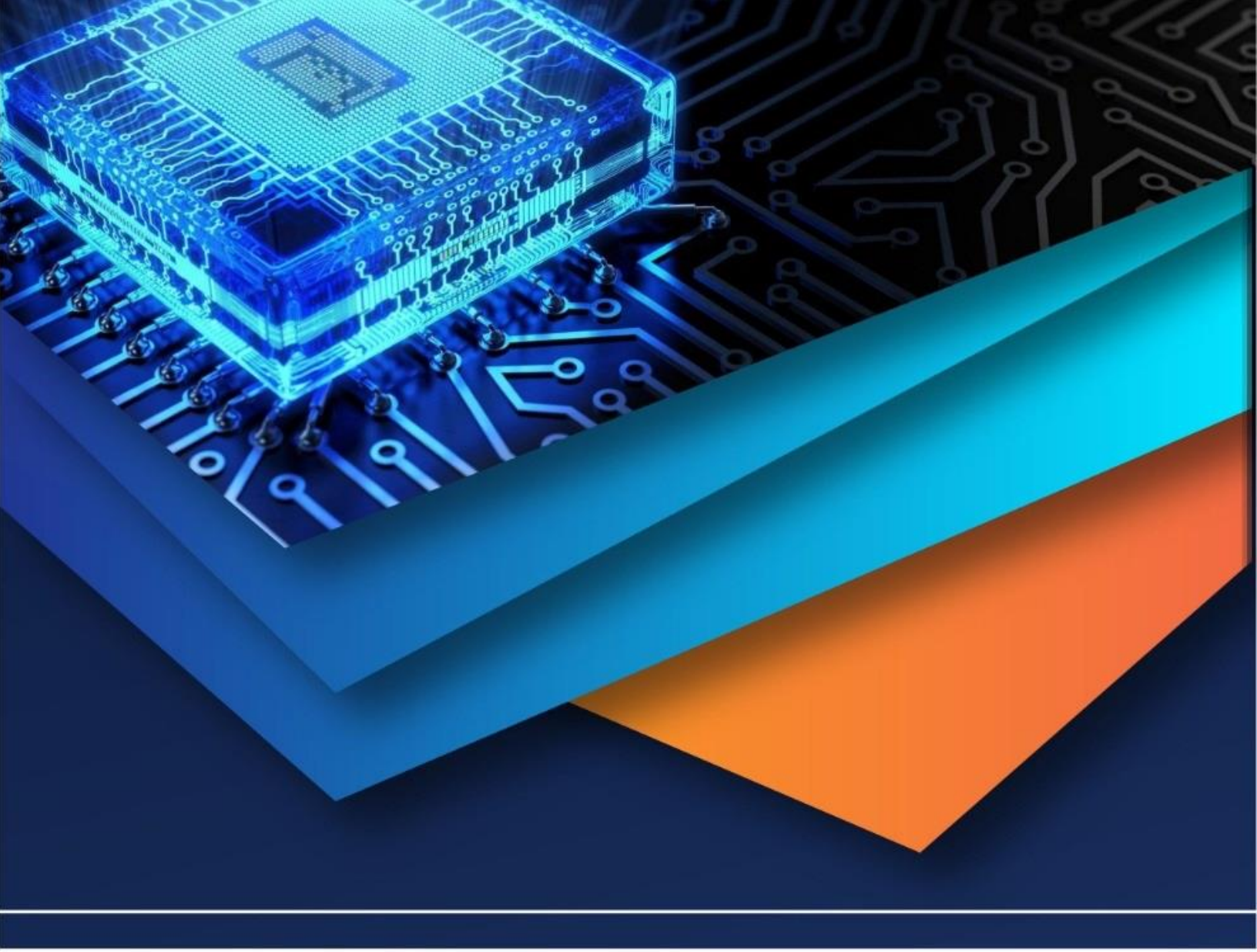
Fig. Donation request from NGO to User

VIII. CONCLUSION

We have proposed a framework utilizing Block-chain alongside digital currency for a noble cause work to make it more straightforward through a decentralized framework. Urbanization has made a ton of individuals more worried about others and this has made a ton of individuals charitable. And yet there are additionally individuals who need to at last bring in unlawful cash all the while. This framework will give both the necessities which are better credibility and security. Likewise, it will furnish with a believed framework and will make the whole cycle more straightforward. This will help dispose of center men between contributors and noble cause practitioners.

REFERENCES

[1] S. Nakamoto, “Bitcoin: a peer-to-peer electronic cash system,” 2008.
[2] Ministry of Industry and Information Technology, “Ministry of industry and information technology: white paper on 2016 blockchain technology and application development in China,” 2016.
[3] T. Yang, “Annual report on China‘s philanthropic development (2016),” Chinese Academy of Social Sciences, 2016.
[4] J. T. Mentzer, D. J. Flint, and G. T. M. Hult, “Logistics service quality as a segment-customized process,” Journal of Marketing, Vol.65, October 2001, pp.82–104.
[5] N. Hackius, M. Petersen, “Blocklchain in ogistics and Supply Chain: Trick or Treat?,” Supply Chain Management and Logistics, Wolfgang Kersten, Thorsten Blecker and Christian M. Ringle (Eds.), October 2017.
[6] M. C. Cooper and D. M. Lambert, “Supply chain management: More than a new name for logistics,” The International Journal of Logistics Management, January 2014.
[7] I. Britchenko, T. Cherniavska and B. Cherniavskyi, “Blockchain technology into the logistics supply, “Development of small and medium enterprises: the EU and east-partnership countries experience: collective monograph, Igor Britchenko and Yevheniia Polishchuk(Eds.), March 2018, pp. 307–318.
[8] A. Badzar, “Digital supply chain transformation toward blockchain integration,” SMMM20 Masters Thesis, Helsingborg, May 2016.
[9] J. Zhu and Y. Fu, “Blockchain-based supply chain dynamic multi-center cooperative authentication model,” Chinese Journal of Network and Information Security, Vol.2 No.1, January 2016, pp.27–33.
[10] K. Sadouskaya, “Adoption of blockchain technology in supply chain and logistics,” April 2017.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY