AGICULTURAL SUPPLY CHAIN USING BCT

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ABSTRACT:

Agricultural farmers nowadays confront numerous challenges, ranging from seasonal variations to a broken supply chain; their work is difficult and time-consuming. In such a circumstance, a separate information database with reliable data would be quite beneficial. Knowledge transfer is critical in all facets of this profession, whether it's regarding market trends or profitable techniques. Interference from third parties in this area could lead to the spread of misinformation. This can be mitigated by utilising blockchain, a secure and incorruptible data ledger. An attempt is made here to investigate the many ways in which blockchain technology can be integrated into the agricultural supply chain as a transparent and reliable transaction mechanism.

Keywords: ASC, BCT, AES, visual cryptography, SHA 256, Java, JSP, Sevlet, Web, etc.

I.   Introduction:

Sunil Patidar, a farmer, travelled 50 kms to reach a mandi (wholesale market) to sell his produce of onions. However, he came back dejected. Forget about earning a profit, he couldn't even recover his input costs. This is not just his story. There are many farmers like Sunil in India, who are extremely unhappy. Their biggest grievance is they don't get a fair price for their crops. The primary reason behind this is they don't get minimum support price (MSP) for their produce. The minimum support prices are a guarantee price for farmer's produce from the government. The government fixes a price to protect the producer -- farmers -- against excessive fall in prices during bumper production years. "At a wholesale market in Indore, onion was selling at Rs 5-6 a kilo (Rs 500-600 per quintal). Our input cost is more that this. In such a scenario, we often wonder why are we even

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growing onions," said Patidar, who lives in Harsola village, in Mahu block, 40 kms from Indore in Madhya Pradesh. Incidentally, Harsola, a nondescript village in Madhya Pradesh -- is famous for producing best-quality, low starch potatoes After 6 farmers were killed on June 6, 2017, when police opened fire on protesters in Madhya Pradesh's Mandsaur, the state government decided to procure onion directly from farmers at the rate of Rs 8 per kg. However, after the change in regime, onions are not being bought at this rate. Gaon Connection conducted a survey in 19 states and asked 18,267 respondents to comment on major issues faced by farmers in India. 43.6%, or 4,649 respondents, said farmers not getting fair price for their produce is a big issue that needs to be addressed. While 19.8% respondents said they are also facing many problems due to changing climate, 17% said increasing input costs is giving farmers sleepless nights. Based on these findings, we spoke to many experts who said the main reason behind farmers not getting a fair price is because they don't get the minimum support price or their produce. According to an OECD-ICAIR report, between 2000 and 2017, farmers incurred a loss of Rs 45 lakh crore as they didn't get a fair price for their produce. In 2015, the high-level committee for restructuring of Food Corporation of India (FDI) chaired by Shanta Kumar in a report mentioned that only 6% farmers get direct benefits of MSP. This implies that 94% don't get any benefit of MSP. The NITI Aayog, in 2016, published a report which mentioned that 81% farmers were aware that the government provides Minimum Support Price on many crops, but only 10% farmers knew the rates before the harvesting season started. This raises a pertinent question. When farmers in India are not even aware about benefits of MSP, how would they get fair price for their produce? The report mentioned that 62% farmers got to know about the MSP only after their crop was ready. As per the report, while 32% farmers got paid in cash, 40% farmers received payment through cheque.So we are going to implement a system so that farmer will get a minimum fixed price for his products.

I.   Literature Survey:

A model in Agri-food Supply Chain Costing using ABC Costing: A empirical research for Peruvian coffee supply chain

Andrea Villalva-Cataño, Edgar Ramos-Palomino, Kelsey Provost, Eduardo Casal

This paper analyzes basically the causes of the high logistical costs presented by the Peruvian coffee in the supply chain. A cost analysis methodology will help to explore, analyses and develop high supply chain costs so that the current coffee crisis can be stabilized. Indeed, the findings found were analyzed to improve, support, and help small-business growth in the long run.

A Theoretical Implementation: Agriculture- Food Supply Chain Management using Blockchain Technology
S. Madumidha1, P. Siva Ranjani2, U.Vandhana3, B.Venmuhilan4

This paper presents a fully decentralized blockchain based traceability that enables to build blocks for agriculture that continuously integrate with IoT devices from provider to consumer. To implement, we introduced "Provider-Consumer Network" - a theoretical end to end food traceability application. The objective is to create distributed ledger that is accessible by all users in the network that in turn brings transparency.

Blockchain in Agriculture by using Decentralized Peer to Peer Networks

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To address the problems arising from the farmers related to agriculture, the blockchain technology plays a major role in the agriculture industry by improving transparency and food provenance in the supply chain, which is featured by the distributed ledger, centralized servers, P2P (Peer to Peer) networks, As in [1] [10]RFID (Radio-Frequency Identification) tag, consensus verification. Hence, the proposed work explores the different problems faced in agriculture production and the solutions to those problems are addressed by using blockchain technology.

Blockchain technology in current agricultural systems: from techniques to applications

WANG1, HAINING YIN4, DEWEI YI5, AND LAIHUNG YAU6

In this paper, we provide a survey to study both techniques and applications of blockchain technology used in the agricultural sector. First, the technical elements, including data structure, cryptographic methods, and consensus mechanisms are explained in detail. Secondly, the existing agricultural blockchain applications are categorized and reviewed to demonstrate the use of the blockchain techniques. In addition, the popular platforms and smart contract are provided to show how practitioners use them to develop these agricultural applications. Thirdly, we identify the key challenges in many prospective agricultural systems, and discuss the efforts and potential solutions to tackle these problems.

Blockchain-based Data Traceability Platform Architecture for Supply Chain Management

Yihang Wei

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This work proposes a data traceability platform architecture design plan for supply chain management based on the multi-disciplinary knowledge and technology of the Fabric Alliance chain architecture, perceptual identification technology, and cryptographic knowledge. At the end of the paper, the characteristics and shortcomings of data traceability of this scheme are evaluated.
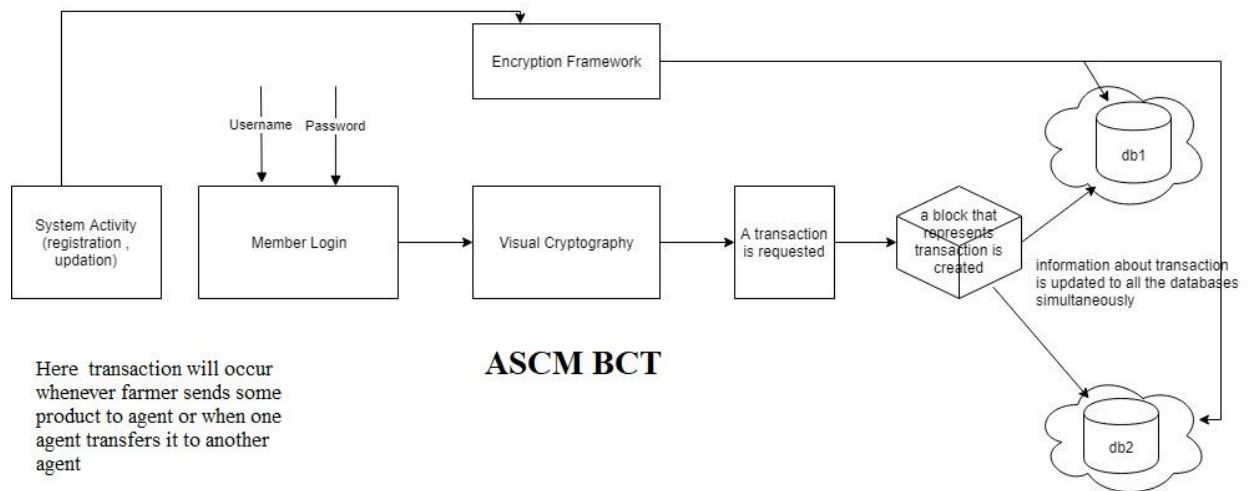
II.   Proposed System:
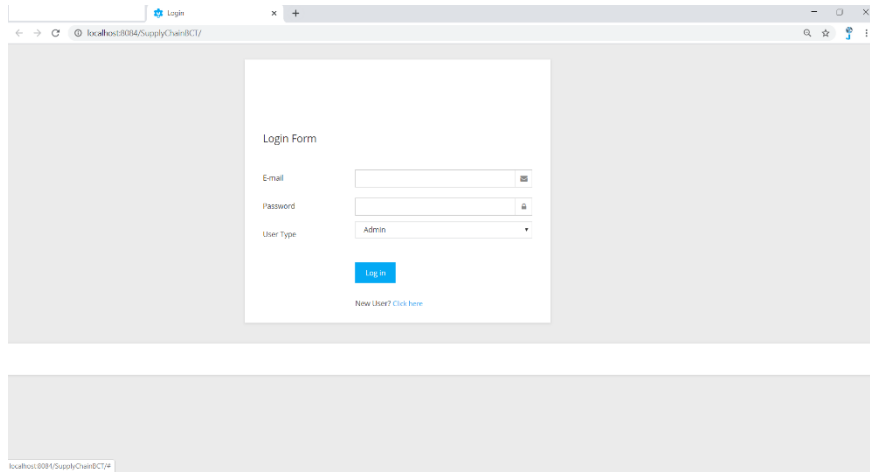

Fig: Proposed System
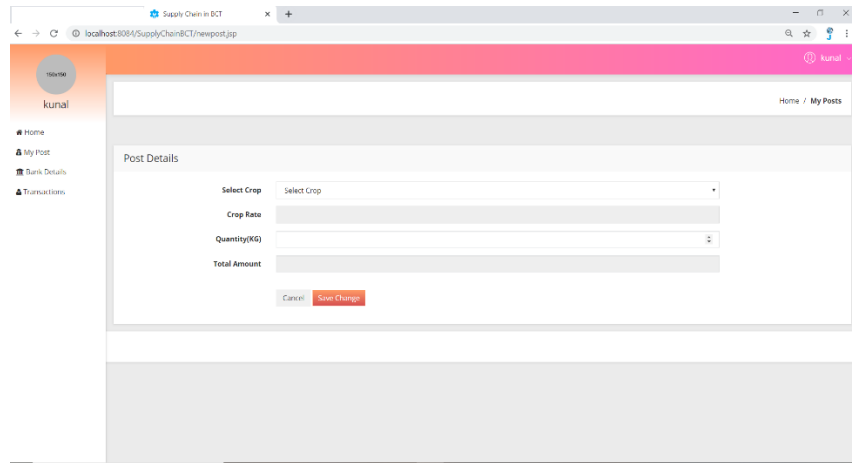
Results:

Fig: Login Page
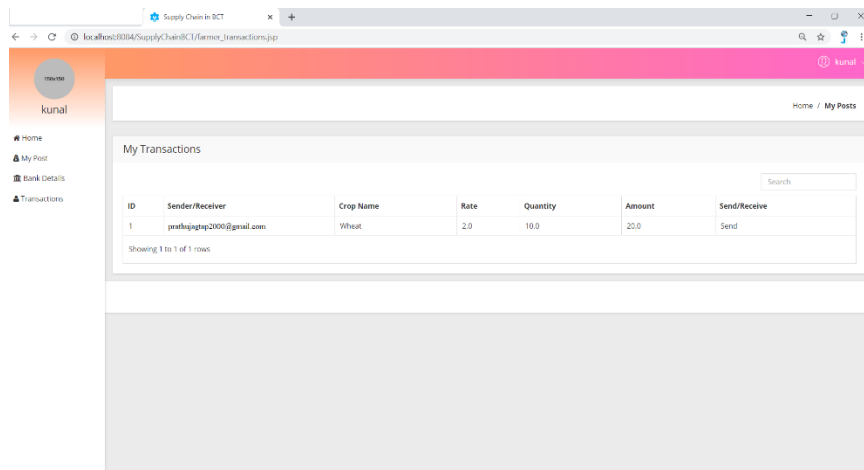

Fig: Farmer Add Post

Fig: Farmer Transaction

III.   Conclusion:

Thus we are going to implement an ASCM using BCT, the system with BCT will be an effective solution to solve the problems in ASCM. The system will be developed using java as a programming language using JSP & Servlet technology.

References:

[1] L. Guo, C. Zhang, J. Sun, Y. Fang. A privacy-preserving attribute based authentication System for Mobile Health Networks", IEEE Transactions on Mobil Computing, 2014.

[2] A. Abbas, S. Khan, A review on the state-of-the-art privacy preserving approache in e-health clouds", IEEE Journal of Biomedical Health Informatics 2014.

[3] J. Yang, J. Li, Y. Niu, A hybrid solution for privacy preserving medi-ca data sharing in the cloud environment , Future Generation Computer Systems 2015.

[4] V. Goyal, O. Pandey, A. Sahai, B.Waters, Attribute-based encryption for finegraine access control of encrypted data , Proc. 13thm ACM Conf. Compute and Comm. Security (CCS06), 2006.

[5] R. Ostrovsky, A. Sahai, B.Waters, Attribute-based encryption with non-monotoni access structures , in: Proceedings of the 14th ACM Confer-ence on Compute and Communications Security, ACM, 2007.

[6] . Supply Chain Management in Indian Agriculture, Himanshu Arora

[7] Blockchain Technology for Agriculture: Applications and Rationale, Hang Xiong1

[8] https://www.gaonconnection.com/gaonconnectionsurvey/farmers-said-they-dont-get-get-to-decide-selling-price-want-msp-45320