

Survey On Blockchain Technology In Supply Chain System For Identification Of Counterfeit Products

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ABSTRACT

These days, anything can be searched for and found out about thanks to technology. The greater the number of individuals within the community that utilize machine learning technologies, the more data may be collected. There are now many cases of cosmetic circulation violations in Indonesia. One example would be the distribution of products that have been fraudulently generated by untrustworthy parties and lack a BPOM (Food and Drug Supervisory Agency) registration code. In addition to the many examples of cosmetic violations, there have also been changes in people's behaviors, such as changing patterns of consumption (users). The general public still lacks a great deal of knowledge on the safe selection and use of cosmetics. Applications for cosmetic safety checks are available to consumers, who can use them to independently verify whether the products they intend to use are genuine or fraudulent. The research methodology employed in this study is the waterfall approach combined with qualitative approaches. This scheme aims to enable the public to quickly ascertain the authenticity of cosmetic products before making a purchase by simply scanning the barcode.

Keyword: - Barcode, QR Code, BPOM, Cosmetic, fake product detection, simply scanning the barcode.etc.

INTRODUCTION

According to UN estimates, the global market for counterfeit goods is estimated to be worth US\$250 billion annually¹. Counterfeiting poses a challenge to almost every firm, resulting in decreased income and damage to brand reputation. Because of these losses, companies sometimes are unable to recover their RD investments, which restricts their capacity to produce meaningful products going forward. Another school of thinking holds that counterfeit goods help finance organized crime in some nations; any respectable business would not want to be connected to this. Products that are counterfeit put consumers at risk, and some can be deadly or very harmful to their health. When it comes to medical supplies or kid's toys, customers may find it challenging or even dangerous to identify counterfeit goods. We'll talk about the topic of fake domains and concentrate on the areas where using IT technology might be beneficial. After introducing the relevant works, we will explain the solution concept and technological architecture and then concentrate on the issues associated with implementing and evaluating such solutions.

LITERATURE SURVEY

With the approach of globalization and the evergrowing pace of innovation, the volume of creation as well as simplicity of acquiring fake merchandise has become phenomenal. Be it food, medication or extravagance things, a wide range of modern producers and wholesalers are presently looking for more noteworthy straightforwardness in production network tasks so as to dissuade falsifying. This paper [1] presents a decentralized Blockchain based application framework (DApp) with the end goal of distinguishing fake items in the store network framework. With the fast ascent of Blockchain innovation, it has become realized that information recorded inside Blockchain is changeless and secure. Consequently, the proposed project[3] here utilizes this idea to deal with the exchange of responsibility for. A purchaser can confirm the item conveyance and proprietorship data examining a Fast Reaction (QR) code created by the DApp for every item connected to the Blockchain.

This system[2] will utilize Speedy Reaction (QR) code to give hearty strategy to attempt to stop the act of forging the items. Counterfeit items can be recognized utilizing a Fast Reaction scanner, where a QR code connected to the item is connected to the Blockchain organization. Presently, this idea may be utilized to store the information like item subtleties and created one of a kind code for that item as blocks to the data set of Blockchain. At the point when the client transfers the exceptional code and the code is contrasted with the Blockchain data set. Assuming the code matches the code that was created during the producer, it will tell the client saying the QR code is matched any other way it will inform the client that QR code isn't coordinated and the item is phony.

This System[3] gives the arising innovation of web use cases, Speedy Reaction (QR) codes give a vigorous strategy to battle the act of forging the items. Forged items can be recognized utilizing a QR code scanner, where a QR code of the item is connected to Blockchain. Along these lines, this framework might be utilized to store item subtleties and created extraordinary code of that item as blocks in data set. It gathers the special code from the client and looks at the code against passages in the Blockchain data set. Assuming the code matches, it will give all the data of the item any other way no data will be yielded to the client which shows that the item is phony or falsified.

This paper[4] presents the framework intended for hostile to fake utilizing Blockchain innovation and to empower end client and provider to follow store network of item in a got climate. In an outline of proposed framework, it is planned to tackle the issue of brand duplicating and give the opportunity to the client, sellers and providers to actually take a look at the honesty of the item.

In this paper[5], a decentralized application framework (DApp) has been presented that uses Custom blockchain innovation in its design. The DApp reproduces a certifiable store network and guarantees the responsibility for is moved and kept in the blockchain network. Furthermore, the framework proposed here can likewise be executed in Online business and retail destinations that can extensively get straightforwardness the virtual stages for all buyers. However Radio Recurrence ID (RFID) has been utilized for research in this area already, it has presented security and protection takes a chance with which can be proficiently managed utilizing blockchain.

Fake items assume a significant part in item fabricating businesses. This influences the organizations name, deals, and benefit of the organizations. Blockchain innovation is utilized to distinguishing proof of genuine items and recognizes counterfeit items. Blockchain innovation is the disseminated, decentralized, and computerized record that stores conditional data as blocks in numerous data sets which is associated with the chains. Blockchain innovation is secure innovation in this manner any block can't be changed or hacked. By utilizing Blockchain innovation, clients or clients don't have to depend on outsider clients for affirmation of item security. In this project[6], with arising patterns in portable and remote innovation, Speedy Reaction (QR) codes give a hearty procedure to battle the act of forging the items. Fake items are distinguished utilizing a QR code scanner, where a QR code of the item is connected to a Blockchain. So this framework might be utilized to store item subtleties and created special code of that item as blocks in the data set. It gathers the one of a kind code from the client and looks at the code against passages in the Blockchain data set. Assuming the code matches, it will give a warning to the client, any other way it will give the notice to the client that the item is phony.

In this paper[7], Clients look at the item subtleties utilizing secret key code and a short time later they can separate the fake thing. It contains just the confirmation certificate, license and check number. The general improvement of a thing or improvement dependably goes with risk factors, for example, creating and duplication.

The system[8] is based on a blockchain, and organizations that utilization it will simply need to burn through the fundamental amounts of cash to make and change their agreements The framework contains just two jobs i.e., producers and end users. it utilizes SHA Calculation which contains a few constraints.

In this paper[9], fake items are distinguished utilizing scanner tag peruser, where a standardized tag of the item connected to a Block Chain Based Administration (BCBM) framework. So the proposed framework might be utilized to store item subtleties and novel code of that item as blocks in data set. It gathers the special code from the client and looks at the code against passages in block chain data set. Assuming the code matches, it will give warning to the client, in any case it gets data from the client about where they purchased the item to distinguish fake item producer.

In late years,[10] blockchain has gotten expanding consideration and various applications have risen up out of this innovation. A prestigious Blockchain application is the digital currency Bitcoin, that has not exclusively been really taking care of the twofold spending issue yet additionally it can affirm the authenticity of value-based records without depending on an incorporated framework to do as such. Subsequently, any application involving Blockchain innovation as the base design guarantees that the items in its information are sealed. This paper utilizes the decentralized Blockchain innovation way to deal with guarantee that buyers don't completely depend on the traders to decide whether items are real. We depict a decentralized Blockchain framework with items hostile to forging, in that way makers can utilize this framework to give certifiable items without overseeing direct-worked stores, which can essentially lessen the expense of item quality confirmation.

OBJECTIVES

- The idea for this project came about as a result of the increase in fake goods. The creation of an anti-counterfeit system is the project's main objective.
- To protect product information with a QR code. Giving clients access to data could provide them with security.

PROPOSED METHODOLOGY

The current system has developed into a centralized architecture that resembles the strategy of using a single server.

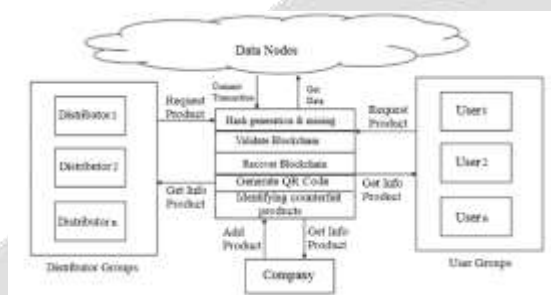


Fig: - System Architecture

The system makes use of an Ethereum blockchain that is difficult to upgrade using proprietary logic. Current mining policies may make it harder to finish the transaction altogether, adding to the system's overhead.

CONCLUSION

There are multiple research avenues to use Blockchain technology to the transaction business due to the intricacies of this field and the demand for more reliable and effective information management frameworks. An interoperable architecture will be important in a number of transaction usage scenarios with comparable data exchange and communication issues. While there are several instruments available for detecting counterfeit items, most of them only take a picture of the barcode or logo. The purpose of this study is to provide recommendations for how to create a tool that can take a picture of a product logo, process it using artificial intelligence, and identify text and colors to indicate if a product is real or fake.

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