Identifying the Genuineness of the Product using Blockchain Technology

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Abstract: *The global development of a product or technology always comes with risk factors such as counterfeiting and duplication. Which can affect the company's name, revenue and customer review. Blockchain technology is the distributed, decentralized, and digital ledger that stores transactional information in the form of blocks in many databases which is connected with the chains. Blockchain technology is secure technology therefore any block cannot be changed or hacked. By using Blockchain technology. Customers or users do not need to rely on third-party users for confirmation of product safety. This web application uses Blockchain. Blockchain technology helps to solve the problem of counterfeiting a product and will be reliable. This web application uses SHA-256 hashing algorithm (Secured Hashing Algorithm), where every piece of data produces a unique hash that is thoroughly non- duplicable. SHA- 256 is applied to identify the genuineness of the product.*

Keywords: Counterfeiting, Blockchain, SHA-256 Algorithm, Genuineness of the Product, Security, Fake Products

I. INTRODUCTION

According to the globe Customs Organization (WCO), 7-9 percent of worldwide trade consists of counterfeit merchandise. One in every of the most reasons behind this ascension of counterfeit trade is that the inability of existing provide chain networks to combat the difficulty. The impact of counterfeit is seen in trade, trade innovation, and most significantly, on the health and safety of consumers/shoppers. This conjointly leaves a negative impact on the complete image, resulting in loss of revenue for businesses. In India, counterfeit merchandise cause over RS 1-lakh large integer loss annually in Bharat as claimed by ASPA, Associate in Nursing trade body acting on anti-counterfeiting answer. a significant Wall Street Journal investigation recently unconcealed that Amazon has listed "thousands of prohibited, unsafe, or misbranded merchandise," from dangerous children's merchandise to natural philosophy with pretend. Blockchain is helpful to spot and forestall the counterfeit product. Blockchain could be a system of recording info in an exceedingly method that produces it troublesome or not possible to alter, hack, or cheat the system. Blockchain could be a kind of DLT during which transactions area unit recorded with Associate in Nursing immutable cryptanalytic signature known as a hash. this suggests if one block in one chain was modified, it might be now apparent it had been tampered with.

II. BLOCKCHAIN

Blockchain is a system of recording information in a way that makes it difficult or impossible to change, hack, or cheat the system. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. Each block in the chain contains a number of transactions, and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger. The decentralised database managed by multiple participants is known as distributed ledger technology (dlt).blockchain is a type of dlt in which transactions are recorded with an immutable cryptographic signature called a hash.This means if one block in one chain was changed, it would be immediately apparent it had been tampered with. If hackers wanted to corrupt a blockchain system, they would have to change every block in the chain, across all of the distributed versions of the chain.
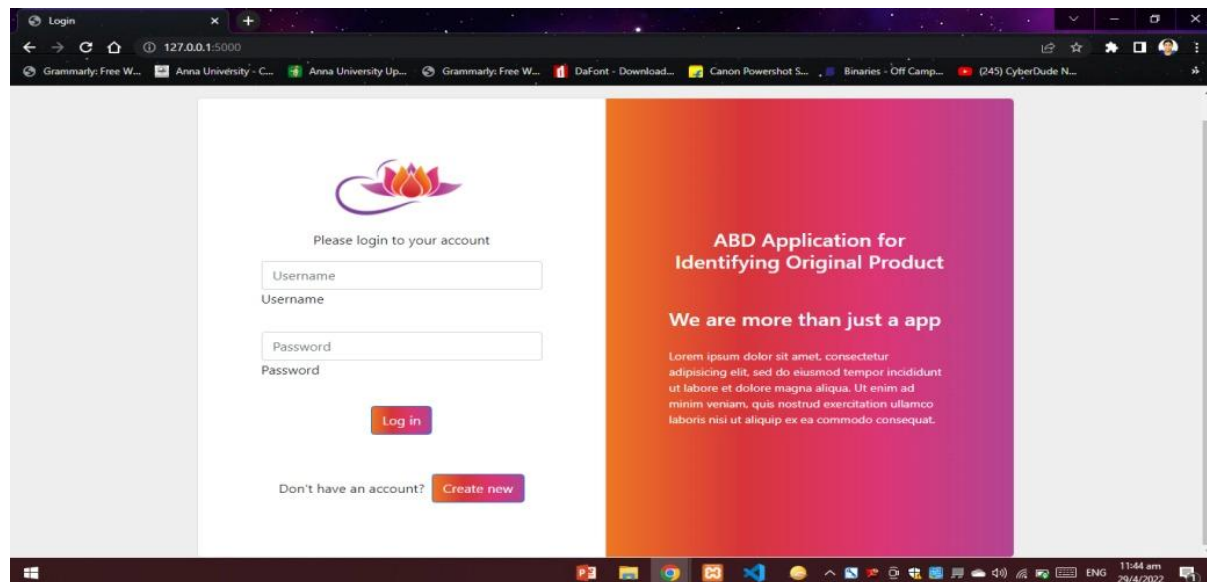
III. DESIGN ISSUE

The challenge is aimed to make use of identifying the counterfeit product. In this project we aim to find the genuineness of the product with the efficient way, Design Anti Counterfeit System using Blockchain, and Provide security to the clients by offering data to client. Provide an email confirmation for the User in our system we enable the communication between the customer and all other departments.
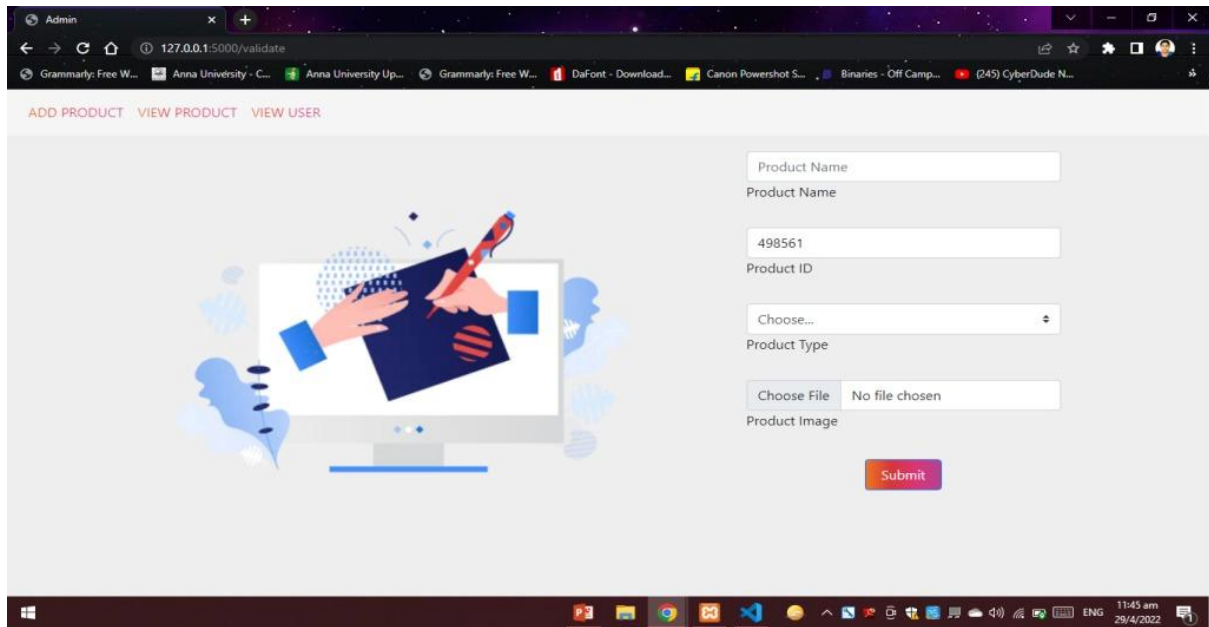
3.1 Algorithm used

Secure Hashing Algorithm (SHA) -256 is the hash function and mining algorithm of the Bitcoin protocol, referring to the cryptographic hash function that outputs a 256 bits long value. It moderates the creation and management of addresses, and is also used for transaction verification. The main reason technology leaders use SHA-256 is that it doesn't have any known vulnerabilities that make it insecure and it has not been "broken" unlike some other popular hashing algorithms. colors which contrast well both on screen and on a black-and-white hardcopy, as shown in Fig. 1.
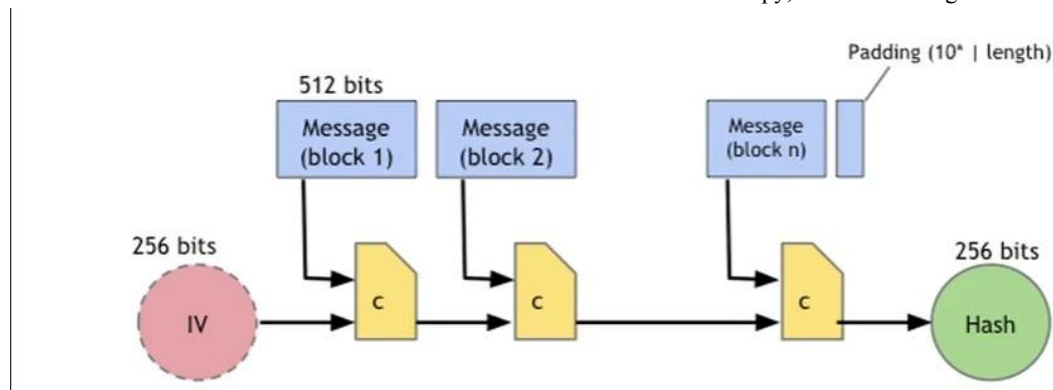
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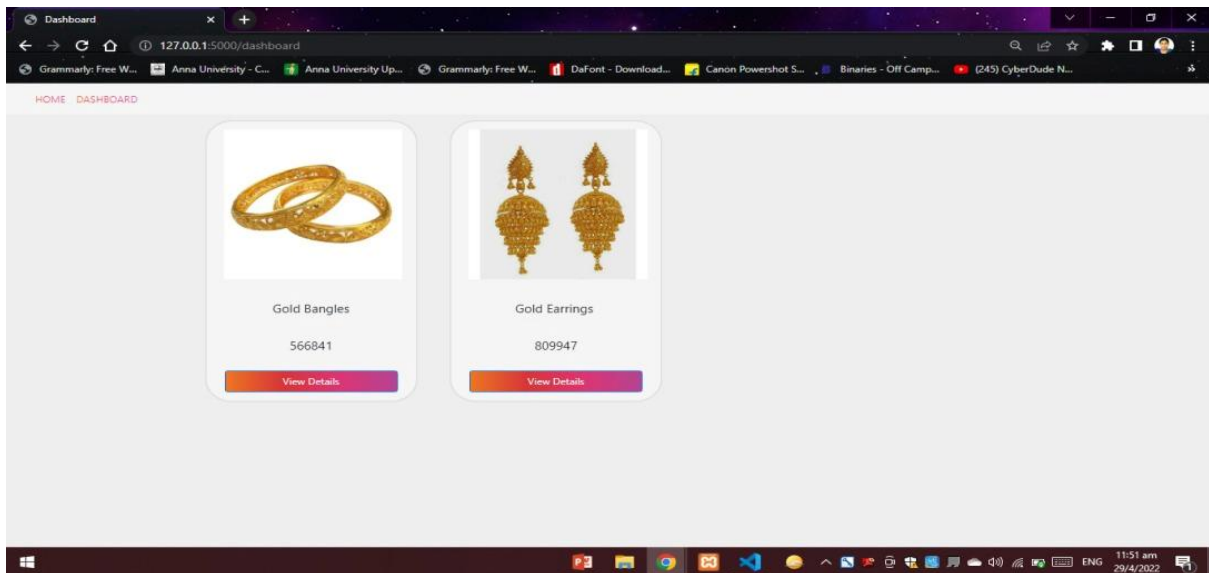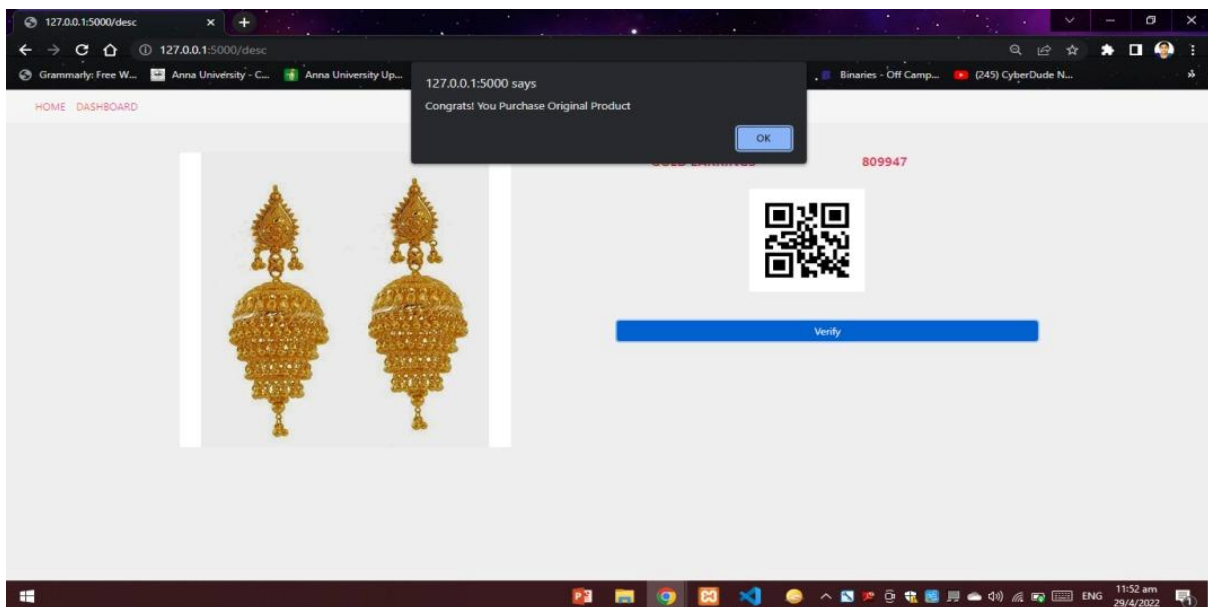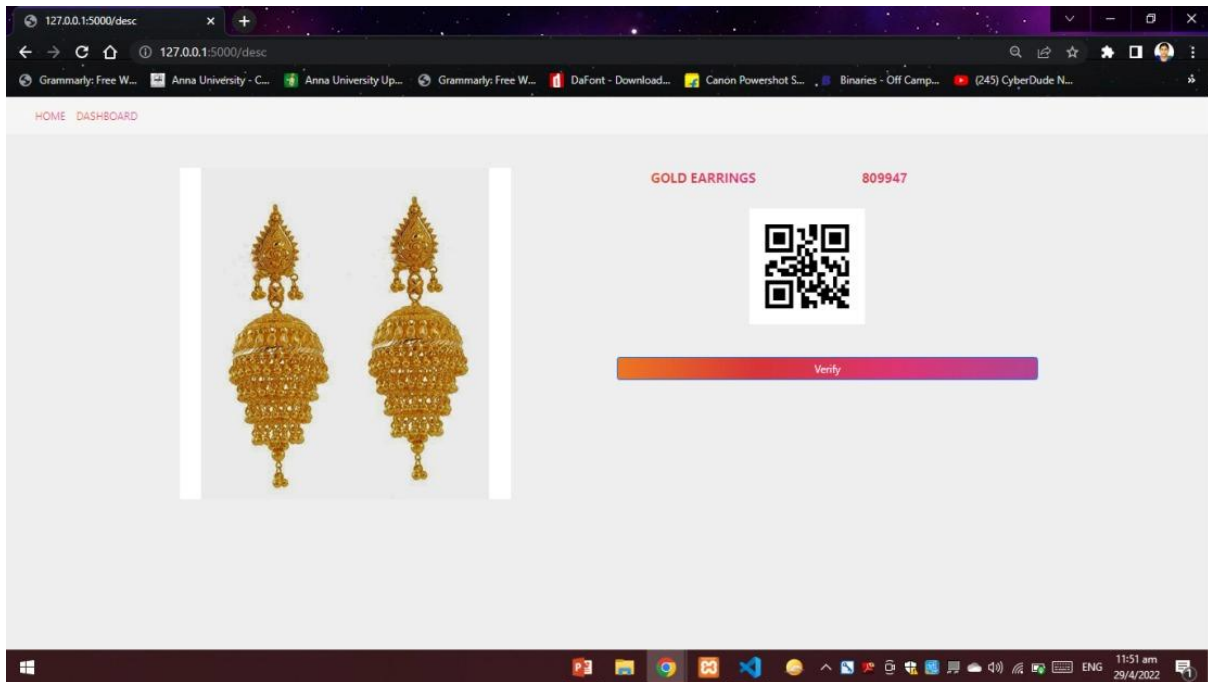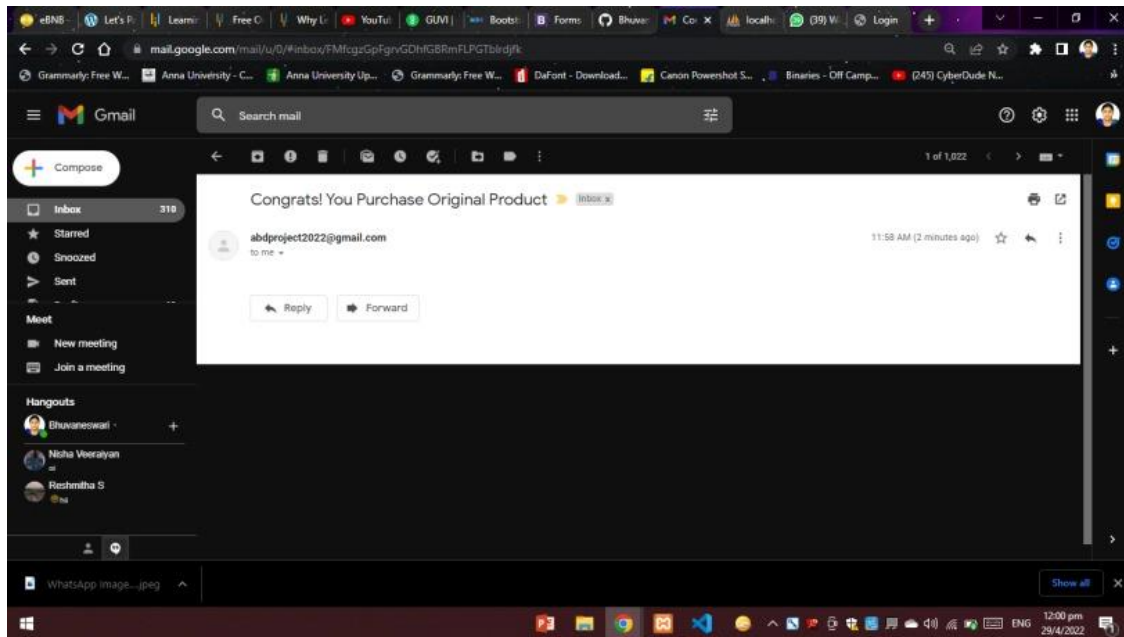
IV. CONCLUSION

In recent years, faux product plays a crucial role in product producing industries. Blockchain technology is employed to identification of real product and detects faux product. It is the distributed and decentralized that stores transactional data within the sort of blocks in several databases that is connected with the chains. This paper the QR Codes is employed to spot the counterfeit product. Counterfeit it product area unit detected employing a QR code, wherever a code of the merchandise is joined to a Blockchain. Therefore, this technique is also accustomed store product details and generated code of that product as blocks within the information. It collects the UQ code from the user and compares the code against entries within the Blockchain information. If the code matches, it'll provides a message to the client, otherwise it'll provide the notification to the client that the merchandise is faux.

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