



Fake Product Identification System

Ranjeet Singh, Bheem Singh, Bhawani Singh ,Chirag Tiwari

Project Guide: Prof. Rahul Sharma , Prof. Keya S Patel, Prof. Aditi S Jaiswal, Prof. Amar Chandra

Parul Institute of Technology Parul University

Vadodara Gujarat, India

Blockchain technology has brought greater transparency and ease in large transactions. We can detect counterfeit goods using blockchain technology. The question that arises when buying any item in today's world is whether it is fake or not. And the lack of these things has been shown a huge impact on economic progress. Therefore, in order to curb all counterfeit goods, it is important to bring transparency about the goods to the notice of the consumers. The growing presence of counterfeit and unsafe products in the world is a cause for concern and blockchain technology has taken the next step towards its complete annihilation. Not only the use of technology will reduce the production of counterfeit goods, but everyone needs to be aware of this. By producing and packaging the right items each of those items needs to be given a digital code with its own identity. The software implementation process in which the product code is scanned using this application and then verify if the given product is counterfeit or not.

I. INTRODUCTION

Supply chain counterfeiting is a universal problem that plagues almost every industry. There are counterfeit electronic components, car parts, consumer goods, pharmaceuticals — even counterfeit wines. While manufacturers and distributors lose billions of dollars annually to counterfeit goods, the risks to consumers can be even greater. Faulty counterfeit auto parts or consumer products can overheat or catch fire, and more than 1 million people each year lose their lives due to counterfeit drugs. While manufacturers, distributors, shippers and government agencies are actively working to remove counterfeit goods from the supply chain, it's challenging to identify counterfeits. Counterfeit goods cost global brands more than \$232 billion in 2018.

The counterfeit drug market alone costs more than \$200 billion per year - enough to bring 13 new drugs to market annually. Losses from counterfeit automotive parts are estimated to be \$2.2 billion per year, not counting those from safety issues and legal liability. Counterfeit consumer electronics cost more than \$100 billion per year, and bogus computer chips cost U.S. companies \$7.5 billion annually, as well as 11,000 jobs. Identifying counterfeit goods that enter the supply chain can be difficult, if not impossible. The only way to beat counterfeiters is to apply a fool proof means of authenticating goods from their point of origin to final delivery.

II. LITERATURE SURVEY

A Blockchain-based decentralized system to ensure the transparency of organic food supply chain Authors: B. M. A L. Basnayake, C. Rajapakse

This study is based on the applicability of Blockchain concept to improving transparency and validity of agricultural supply chain and its process. Since recent past, there has been a rapid change in the production of food and its raw materials. An efficient method to bridge the gap between the farmer producing commodities in the market and the end customer was studied. Blockchain based architecture and its concepts were taken for implanting trustworthiness and transparency within the users and their transactions. In this paper as there is a drawback of farmers may not be knowing about the product traceability once they register.

III Overview of methodology :

In this chapter we will be looking at the research methods that were employed in the study in order to achieve the objectives of the study. This chapter will cover system analysis, system modeling and

Prototyping approach to be used will be to deliver the first model. In prototyping model, a system that mimics the real system is given to the users and the real system is developed by basing on the prototype or by improving on it. Thus: the users to use the system in part and see whether they find it a good system. To give users time to learn how to use and interact with the system. Oral and written interviews or questioners will be used to collect requirements information from the local courts since the other possible means like observation requires an methodology used in the system. existing system to learn from it. Style Sheet

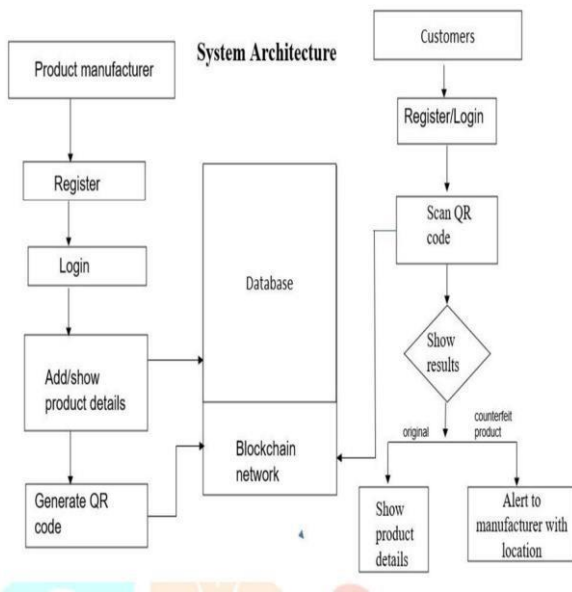


Fig. 1. System Architecture

Project Planning:

Software project plan can be viewed as the following:

1) Within the organization: How the project is to be implemented? What are various constraints ?

What is market strategy?

2) With respect to the customer: Weekly or timely meetings with the customer with presentation on status reports.

Customers feedback is also taken and further modification and developments are done. Project milestones and deliverables are also presented to the customer. For a successful software project, the following steps can be followed

3.4.1 Hardware Hard Disk - 2 GB.

- RAM - 1 GB.
- Processor - Dual Core or Above.
- Keyboard - 122 keys

3.4.2 Software

- Code Editor (VS Code Preferred)
 - Chromium Browser (Chrome Preferred)
- Basic Knowledge of HTML, CSS, Javascript , and MySQL

HTML: HyperText Markup Language or **HTML** is the standard markup language for documents designed to be displayed in a web browser. It defines the content and structure of web content. It is often assisted by

technologies such as Cascading s (CSS)

3.3 Tools Required :

and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for its appearance.

A. ARCHITECTURE DESIGN:

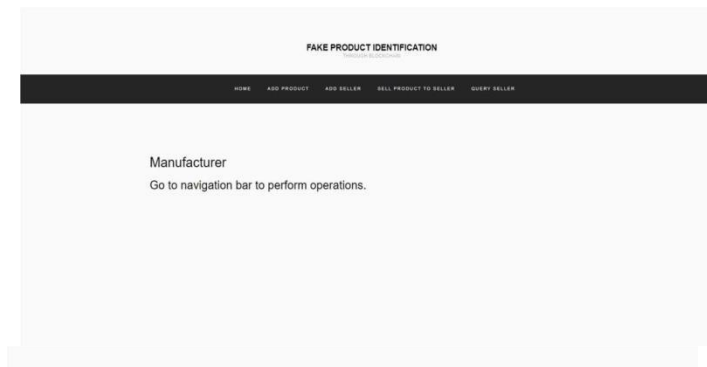


Fig.2 Home Page

III. ADVANTAGES

- 1) Simplified maintenance and scalability.
- 2) Efficient time-saving for customers.
- 3) Expansive global reach with a vast customer base.
- 4) Diverse range of available products.

- 5) Convenient accessibility anytime, anywhere.
- 6) Pinpointed and tailored marketing strategies.

IV. RESULTS

Utilizing the core components of the MERN stack alongside various Node modules, we have successfully developed the foundational version of an e-commerce application mimicking an online store. This program is meticulously crafted to be not only efficient but also user-friendly, ensuring smooth operation and seamless navigation. With careful integration of technology and thoughtful design, our application aims to provide a streamlined and satisfying shopping experience for users.

A. HOME PAGE:

The home page of the project primarily showcases a curated list of products retrieved from the database. Additionally, users are presented with a search bar for easy navigation and quick access to specific items. The navigation bar further offers essential options such as "Sign In" and "Sign Up". For the Sign-In and Sign-Up functionalities, users can conveniently locate these options on the navigation bar. Selecting "Sign In" prompts users to fill out a form, facilitating the sign-in process with their existing accounts. Conversely, opting for "Sign Up" redirects users to the dedicated sign-up page, enabling them to create a new account effortlessly.

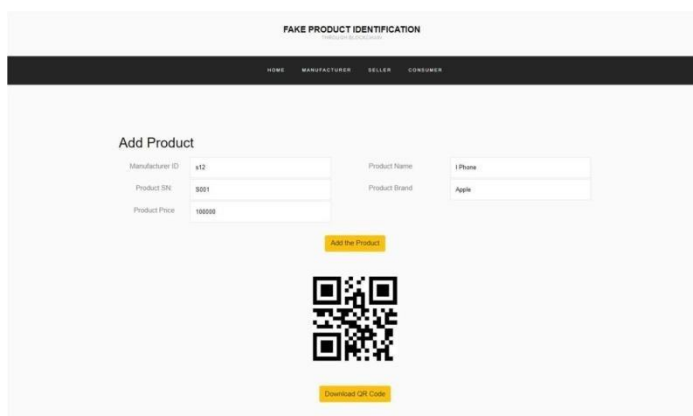


Fig.3 Add Product / QR Generate

B. DEALLER PAGE:

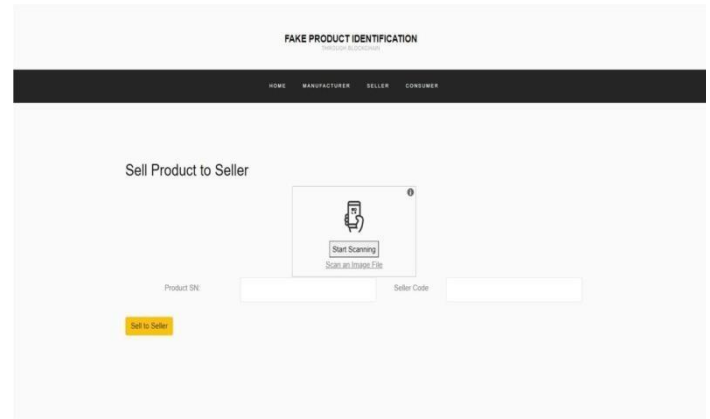
The Sign-Up page of the project serves as a gateway for users to independently register and gain entry into the system. It provides a user-friendly interface where individuals can create their own accounts,

granting them access to the functionalities and features offered by the platform.

Fig. 4 Sell Product

C. VERIFY PAGE

The project's cart page offers users a convenient platfo



rm to manage their shopping experience seamlessly. Here, users can effortlessly add items to their cart and proceed to check out, facilitating online payments directly on this page.

Upon adding a product to the cart, users can view their selected items and proceed with payment, followed by entering shipment details to finalize the order. Payment options include credit/debit cards and UPI, providing users with flexibility and security in completing their transactions.

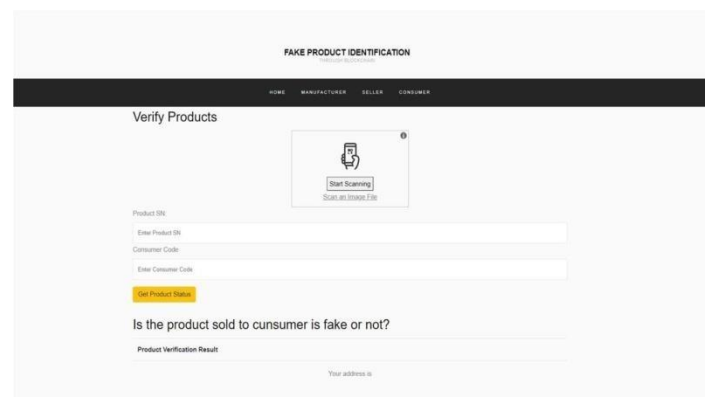


Fig. 5 Verify Products

V. CONCLUSION

This system is the first blockchain system to propose a fully functional anti counterfeiting system. By paying a very low transaction fee, users of our system no longer have to worry about the possibility of purchasing a counterfeit product. Manufacturers can use the system to store relevant information about product sales in blockchain for everyone to see. The total amount of

sales that can be sold by the seller and the number of products that the seller currently has left are transparent. The user can use the functions provided by our system to carry out manufacturer verification immediately. The system provides identity verification using digital signatures. There are no other means of decrypting the key owner's private key unless the key owner accidentally loses their key. In our system analysis result. Costs are much lower than working with reliable large chain stores and well-established direct selling stores. Our system can effectively lower the anti-counterfeiting threshold of branded goods and provide companies with limited financial resources with an easier approach to reassure consumers that they will not buy counterfeit goods. element of allure to their shopping experience.

- M. Nakasumi, Information sharing for supply chain management based on block chain technology, in 2017 IEEE 19th conference on business informatics (CBI) (IEEE, 2017), Vol. 1, pp. 140–149.
- S. Chen, R. Shi, Z. Ren, J. Yan, Y. Shi, J. Zhang, A blockchain-based supply chain quality management framework, in 2017 IEEE 14th International Conference on e-Business Engineering (ICEBE) (IEEE, 2017), pp. 172–176

VI. ACKNOWLEDGMENT

We extend our heartfelt gratitude to our esteemed Project Guide, Assistant Prof. Rahul Sharma, for his invaluable guidance and unwavering support throughout the duration of our project. His expertise and insightful discussions have been instrumental in shaping our work and achieving our goals.

We would also like to express our sincere appreciation to our Head of Department, Prof. Sumitra Menaria, and our Project Coordinator, Assistant Prof. Rahul Sharma, for their invaluable advice and guidance at every step of the way. Their encouragement and mentorship have been instrumental in navigating challenges and ensuring the success of our project. Lastly, we are deeply thankful to our respected Principal, Dr. Swapnil Parikh, for providing us with the necessary resources and opportunities to bring our project to fruition. His continuous support and encouragement have been instrumental in our journey towards achieving excellence.

VII. REFERENCES

- G. Wood et al., Ethereum project yellow paper 151, 1 (2014)
- K. Toyoda, P.T. Mathiopoulos, I. Sasase, T. Ohtsuki, IEEE access 5, 17465 (2017)