Confianza: E-commerce Blockchain Website

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ABSTRACT

Blockchain in an enterprise is a growing trend in the tech industry. Blockchain is an era that is used to transfer and keep information in a green and secure manner. It is used to create and confirm transactions on a distributed ledger. Many demanding situations are confronted by using e-commerce websites, including information breaches, fake reviews, spyware, and many others. For that reason, blockchain is applied to securely keep and affirm data. Through this, proper statistics are attained. Deciding on the appropriate blockchain that is on hand, adaptable, and within your means is pivotal in growing any commercial enterprise model. With the use of an e-commerce website based totally on blockchain technology, the organization will use the generator to create a new way of selling items and services in the future. The term era can also be used to describe the improvement of recent services and products. Therefore, it is a powerful and consumer-pleasing tool.

Keywords: Spyware, Ethereum Coins, Statistics

I. INTRODUCTION

Blockchain technology came to light when a person named 'Satoshi Nakamoto' published a paper "BitCoin: A peer-to-peer electronic cash system". The foundational technology of the digital currency Bitcoin is blockchain. Due to its potential applications, blockchain technology has gained traction and attracted various sectors. Businesses like VISA, IBM, and Microsoft are investing in blockchain technology to understand how to use it in their operations. Blockchain technology has definite advantages when it comes to data traceability. It is harder for hackers to target and tamper with the material in a blockchain system since data is stored decentralized across a network of computers. Furthermore, since blockchain is distributed, there is no single point of failure, and security is further increased.

By this means, the project's objective is to create a decentralized, flexible e-commerce website that protects the privacy of customers and sellers, lowers management costs, and fosters stronger business relationships. In order to accomplish the goals, sophisticated smart contracts are created, which will be utilized to execute Ethereum-based transactions,

ultimately streamlining the business and eliminating other middlemen. Cash payments are no longer viable each time, and online scams and frauds are occurring, so we can use Ethereum coins for the transaction. All the data on the website is secured as a result.

II. AIM AND OBJECTIVE

This project aims to create a user-friendly website with all of the features of an e-commerce website, including buying, selling, and smooth transactions, as well as a new auction system that allows users to bid on items for the best price. Recently, there have been a lot of internet frauds where the victim's needs are compromised and they are not satisfied with the goods or services they ordered. Our personal and financial information is at risk due to the numerous internet money scams that take place. As a result, we choose to create a decentralized system where users' information is protected as it gives us verifiable records of data and transactions of the customer, also providing better customer services [1].

Bitcoins are a major deal right now; many people consider them to be investments, and they're used in many different businesses. Because it is a digital currency, it is incredibly practical to use because transactions may be made with it from anywhere in the world. Given that it was issued by numerous high-level authorities and is widely employed in the economy, it is quite valuable. People all around the world have a great deal of interest in and a preference for certain things, and they often buy those that are in high demand, have positive online ratings and reviews, are limited edition, and are likely to sell out quickly.

We have created a system where the user will be given access to all of the services that allow them to purchase the product, post an online review of the product on the website, provide feedback, and more importantly have Bitcoin-based transactions. The most crucial aspect is that on each purchase of a certain amount, they will earn Ethereum coins, which they can use to purchase a product in the future, and can also if the user holds other coins than eth, they can exchange those for eth. We have named our website after the Spanish word confianza, which means "trust".

III. NEED

Traditional e-commerce platforms face various challenges such as lack of transparency, trust, security, and high transaction fees, which can affect the customer experience and lead to lost sales. Additionally, the current systems of payment processing can be time-consuming and expensive for both customers and merchants.

To address these issues, there is a need for an e-commerce platform that provides a more secure and transparent payment process while also reducing transaction fees for merchants and customers. A blockchain-based e-commerce platform could potentially address these challenges by creating a decentralized system that allows for secure transactions and eliminates the need for intermediaries, thereby reducing costs and increasing trust.

However, implementing blockchain technology in e-commerce presents its own set of challenges, such as scalability, interoperability, and user adoption. Therefore, the problem statement for an e-commerce website using blockchain is to design and implement a user-friendly and scalable platform that leverages blockchain technology to provide a secure, transparent, and cost-effective payment process for merchants and customers.

IV. RELATED WORK

In recent years, there has been a growing interest in developing blockchain technology-based websites that support the authentication of data. Along with this technology we are also using bitcoins (Ethereum). Bitcoin has started to establish a specialized market, which could help cryptocurrencies become more

widely accepted. The Bitcoin community is working to break into the mainstream by innovating and fixing long-standing issues [2].

There are various cryptocurrencies available such as Binance coin, Tether, Cardano, Ethereum, Dai, Tron, and many more. Among these the most widely used is Ethereum(ETH), it is a decentralized blockchain platform that creates a peer-to-peer network for safely executing and validating smart contract application code[3].

There are various shopping websites such as Amazon, Nykaa, Myntra, and many more, all these websites give the user an effective interface, wherein they can buy and sell their products at the best price and provide them with numerous options in every field such as health, beauty, fashion, décor, sports and many more. All these sites give a user-friendly interface and perform a cashless transaction.

The user has access to a variety of transactions, including UPI payments, card payments, net banking transactions, and EMI alternatives. The customer finds shopping to be convenient and simple as a result. But, there are few problems faced by the consumer such as the search function is not functioning properly, payments are failing, there is a lack of product information, threat of our details getting leaked etc., and to address all these problems, we are developing a system that does not compromise with any of these problems while also enabling the customer to bid on a specific product and sell or buy it for the best price.

V. PROPOSED METHODOLOGY

As Blockchain technology stores transactions in an encrypted database, by generating a tamper-proof ledger of all transactions, blockchain technology can assist to secure consumer data by encrypting it, preventing it from being stolen or corrupted. Following the steps through which we can obtain safe transactions using blocks and ether [4].

1. Requirements Gathering: The first step in the methodology is to gather requirements from potential users and stakeholders. This involves understanding the user's needs and expectations, identifying the features and functionalities required in the website, and defining the scope of the project.

2. System Design: The next stage is to design the system architecture, database schema, and user interface. This includes creating a design that outlines the technical specifications of the website, data flow, and user experience. The design should also include the integration of blockchain technology and the auction system.

3. Smart Contract Development: The third stage involves developing the smart contracts that will be deployed on the blockchain. This includes writing Solidity code for the auction smart contract that manages the auction process, and the bidding smart contract that handles the bidding process.

4. Development and Testing: The website is then developed using a development framework such as Truffle, and deployed on a test network. The website is tested to ensure that it meets the functional and non-functional requirements. The testing phase includes unit testing, integration testing, and user acceptance testing.

5. Evaluation and Optimization: After testing, the website is evaluated to identify any performance issues, security vulnerabilities, or usability problems. The evaluation phase involves conducting performance testing, security testing, and user feedback analysis. Based on the evaluation results, optimizations are made to the website to improve its performance, security, and usability.

6. Deployment: Once the website is fully tested and optimized, it is deployed on the main net to make it available for public use. The deployment phase involves deploying the smart contracts and the website on the Ethereum blockchain and making it accessible to users.
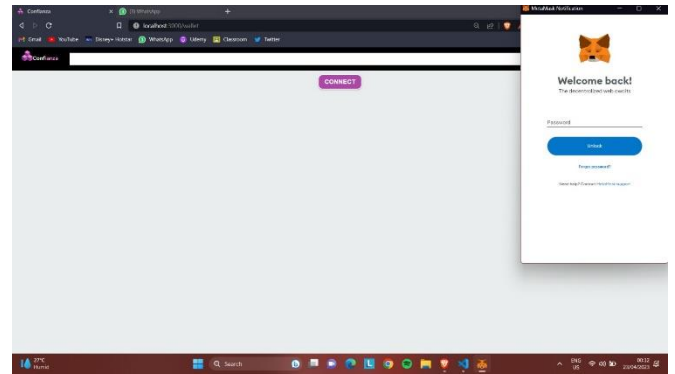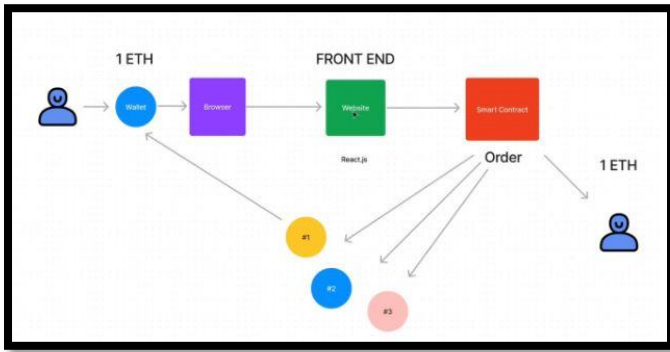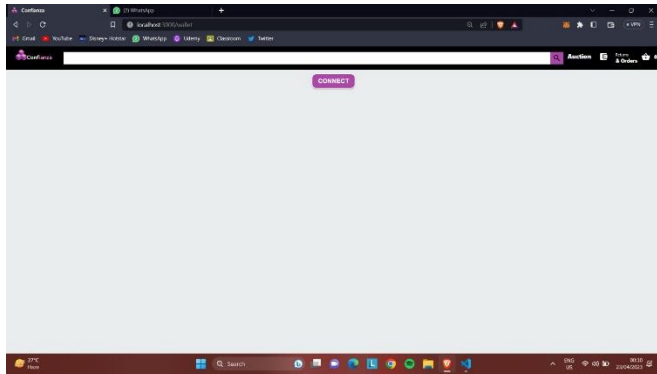
VI. RESULTS AND DISCUSSIONS

1. Login framework utilizing approved login accreditations, the shopping portal opens
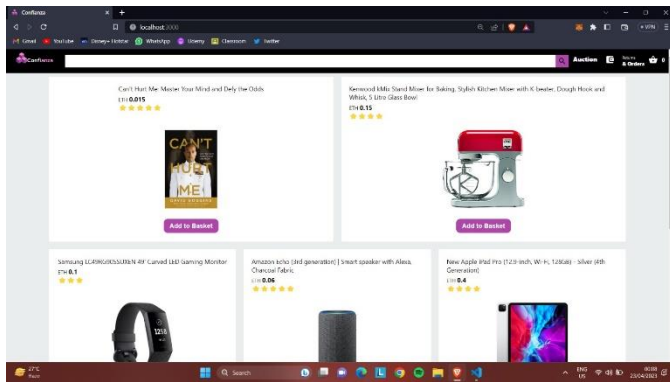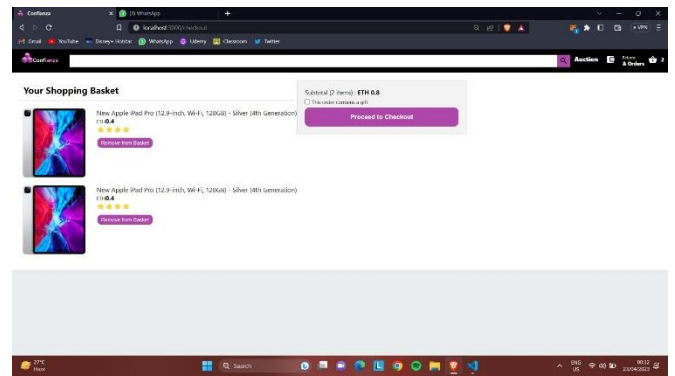

2. On, clicking on the wallet symbol on the upper right, we get this page

3. Clicking on the connect button we get connected to our metamask account

4. After getting connected, we can go ahead with the transaction

The proposed Ecommerce website using blockchain technology with an auction system has been developed and tested. The website allows users to create listings, bid on listings, and participate in auctions. The blockchain technology provides enhanced security, transparency, and immutability to the platform, while the auction system provides a fair and efficient way to sell goods and services.

The use of blockchain technology provided several benefits to the platform, including enhanced security, transparency, and immutability. The blockchain ensured that all transactions were recorded on a decentralized ledger that cannot be altered or tampered with. This provided a high level of security and transparency to the platform, as all users could see all transactions that had occurred on the platform.

VII. CONCLUSION

In conclusion, the proposed Ecommerce website using blockchain technology with an auction system provides a secure, transparent, and efficient platform for buying and selling goods and services. The use of blockchain technology and the blind bidding mechanism ensure that the platform is secure, transparent, and fair. Future work could explore the integration of other blockchain platforms and the implementation of advanced auction mechanisms to further enhance the platform's functionality and usability.

One limitation of the website is that it currently only supports the Ethereum blockchain. However, future work could explore the integration of other blockchain platforms to enhance the scalability, security, and interoperability of the platform.

VIII. ACKNOWLEDGMENT

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