

BLOCKCHAIN-BASED FOOD TRACKING SYSTEM

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ABSTARCT

The global food supply chain is a complex network of producers, distributors, retailers, and consumers. Ensuring the safety and traceability of food products throughout this supply chain is a critical challenge. In recent years, blockchain technology has emerged as a promising solution to address these challenges. This abstract provides an overview of a blockchain-based food tracking system designed to enhance transparency, traceability, and trust in the food supply chain.

Blockchain technology is a decentralized and immutable ledger that records transactions across a network of computers. It has unique features, such as transparency, security, and immutability, making it an ideal platform for building a food tracking system.

PROBLEM STATEMENT

Food items like fruits and vegetables generally do not have any expiry date mentioned so it becomes important to understand the origin of these food items and know the date when was it sent to the distributor from the farmer and so on.

Design a smart contract using the ethereum blockchain where you should be able to authenticate the food item and consume that without any worry

OUR SOLUTION

To address the issue of verifying the origin and freshness of food items like fruits and vegetables, a smart contract can be designed on the Ethereum blockchain. This smart contract would enable the registration of food items with essential details, such as type, origin, harvest date, and distributor information. Consumers can authenticate food items by scanning a QR code or entering a unique identifier, allowing them to access information about the product's origin and journey through the supply chain. The contract can also calculate an estimated expiration date based on the harvest date. By maintaining a transparent and immutable ledger, this solution enhances transparency, ensures freshness, reduces food waste, and fosters trust, enabling consumers to make informed choices and consume food items without worry.

STEPS TO COMPLETE THE PROJECT

Step 1:-

1. Open the Zip file and download the zip file.

Extract all zip files

Step 2 :-

1. Open vs code in the left top select open folder. Select extracted file and open .

2. Select the projectname.sol file and copy the code.

3. Open the remix ide platform and create a new file by giving the name of projectname.sol and paste the code which you copied from vs code.

4. Click on solidity compiler and click compile the projectname.sol

5. Deploy the smart contract by clicking on the deploy and run transaction.

6. select injected provider - MetaMask. In environment

7. Click on deploy. Automatically MetaMask will open and give confirmation. You will get

a pop up click on ok.

8. In the Deployed contract you can see one address copy the address.
9. Open vs code and search for the connector.js. In contract.js you can paste the address at the bottom of the code. In export const address.
10. Save the code.

Step 3:

open file explorer

1. Open the extracted file and click on the folder.
2. Open src, and search for utiles.
- 3 . You can see the frontend files. Select all the things at the top in the search bar by

clicking alt+ A. Search for cmd.

4. Open cmd enter commands

npm install

npm bootstrap

5. It will install all the packages and after completing it will open {LOCALHOST IP ADDRESS} copy the address and open it to chrome so you can see the frontend of

OUTPUT

Remix - Ethereum IDE React App

localhost:3000

Apps Gmail YouTube Maps Cloud Computing S... Online Java Compil...

Food Tracking Using Blockchain

Connect Wallet

Enter Item

Enter Product Name

Enter Origin

Enter Id

Enter Item Id

send Food Item

Verify Food Item

Consume Food Item

Enter Item Id

Food Item Details

CONCLUSION

In conclusion, the absence of an explicit expiry date on food items like fruits and vegetables underscores the need for consumers to have access to information about the origin and journey of these products. This information is crucial for ensuring the freshness and safety of the food we consume that one way to address this concern is through the implementation of a smart contract on the Ethereum blockchain, which can authenticate food items and provide consumers with the confidence to consume them without worry. A smart contract designed for this purpose could have several key features like Origin and Journey Tracking, Quality Assurance, Expiration and Freshness Monitoring and etc.

THANK YOU