



# A Blockchain-Based Decentralized Framework for Crowdsourcing

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**ABSTRACT :** Crowd sourcing empowers open collaboration over the Internet. Crowdsourcing is a method in which a man or woman or an employer makes use of the understanding pool gift over the Internet to perform their task. These platforms provide numerous benefits quality, and lower assignment completion time. To execute tasks efficiently, with the employee pool to be had on the platform, task posters rely on the reputation managed and maintained by the platform. Usually, reputation management machine works on ratings supplied by means of the task posters. Such reputation systems are susceptible to several attacks as users or the platform owners, with malicious intents, can jeopardize the reputation device with fake reputations. A blockchain based approach for managing various crowdsourcing steps provides a promising route to manage reputation machine. We propose a crowdsourcing platform where in every step of crowdsourcing system is managed as transaction in Blockchain. This allows in establishing better trust inside the platform customers and addresses various attacks which are possible on a centralized crowdsourcing platform.

**KEYWORDS:** Block-chain, Crowdsourcing, centralized,

## I.INTRODUCTION

A block-chain is a decentralized, distributed and public digital ledger this is used to record transactions across many computer systems so that any involved record cannot be altered retroactively, without the alteration of all next blocks. Crowdsourcing is a sourcing model in which people Or companies gain goods and services, including ideas and finances, from a large, exceedingly open and frequently rapid-evolving organization of internet users; it divides work among individuals to reap a cumulative result.

Block-chain technology is described as the technology that performs as a role of distributed ledger in which transactions are made in digital way and at the same time these transactions are recorded, verified, and validated in the course of the network of nodes without the approval of central authority. The most important feature is the decentralization, which guarantees that there's no person resource that control the whole machine.All taking participating nodes of the machine can use all their resources to prevent the many-to-one site visitors flows, which finally succeed in dealing with problem raised to single point failure and decreases the delay. The decentralized machine makes certain that the machine is strong and scalable.

## MOTIVATION

- Crowd sourcing allows performing more quickly than a single employee.
- Provide an efficient way of work.
- We are making crowd sourcing for maintain the security and transparency between the requester and the worker.

## II.RELATED WORK

Literature survey is the most important step in any kind of research. Before start developing we need to study the previous papers of our domain which we are working and on the basis of study we can predict or generate the drawback and start working with the reference of previous papers.

In this section, briefly review the related work on crowd sourcing and their different techniques.Block-chain's unique inherent characteristics, which include more desirable integrity and tamper evidence operation (particularly attributed to the renovation of the "ledger" in a distributed manner),on how they can increase the performance of a novel crowd-sourcing platform. Especially, the use cases of EUNOMIA are presented,where the advent of a P2P community with popularity



mechanisms between the peers manages, by the use of Block-chain as a database, to beautify the performance of the gadget and to satisfy the requirements of modern professionals. [1]

In this paper, temporal shadow is utilized in which allow to get access to the e Health report in secure way. This machine is patient centric; it allows the patient to access the medical history. The temporal block-chain is used to keep the anonymous fitness information. The temporal value is generated based totally on the preceding hash cost, random price and timing. The start time, give up time and in-between time are considered for the timing. The consumer can access the patient document by means of giving the temporal hash signature. [2]

In this paper, distributed incentive mechanism based totally block chain which can eliminate the security issues due to a 'trustful' center. In the distribute crowd sensing system, the sensing information features are evaluated via the EM set of rules and contributions are quantized via mutual records by way of miners. We use a signcryption approach to prevent miners and other adversaries from violating users' privateness. The signcryption mechanism saves computing expenses compared to running sequentially of the signature and encryption. In addition, we use the node cooperation based totally privateness protection mechanism which makes users' privateness to be hidden in organization to cope with the impersonation attacks inside the open and transparent block-chain. In the future, we will analyze the opportunity and discuss solutions of collusion attacks among an anonymity group and miners, among miners and the server and among customers and miners. Due to confined time and paper space, we are able to show the safety test and more theoretical evaluation in our future work. [3]

Zebra Lancer can facilitate a large variety of incentive mechanisms to realize the fair alternate between the crowd shared data and their corresponding rewards, with out the involvement of any third-celebration arbiter. Moreover, it suggests the practicability to solve two natural tensions in the use-case of the decentralized crowdsourcing atop open block-chain: one between the data confidentiality and the block-chain transparency, and the alternative one between the participants' anonymity and their accountability. [4]

This paper presents a trustless crowd-intelligence ecosystem based totally on the common decentralization function of mobile edge computing and block-chain technology. Its reward-penalty version provides a flexible way to align the interests of 3 stakeholders. It expands the applications of crowd-intelligence to crowdsourcing and crowd sensing domains. What is more, it can make use both of human beings and machines as workers to solve the employee shortage problem. [5]

This paper highlights the difference between the conventional supply chain and IoT incorporated block-chain based supply chain. The problems faced by the automotive industries, pharmaceutical industries, food industries, and retail industries by using the traditional supply chain as well as the answers to the troubles offer the block-chain based totally structures in the ones industries. It was found that the IoT integrated block-chain based deliver chain device in a position to remove the trouble and make the machine more efficient and trustworthy. Finally a case look at has been proposed on seafood enterprise supply chain and the blessings of integrating block chain into the network. This paper will help the industry people to recognise the blessings of block-chain primarily based deliver chain device and attempt to put into effect in actual existence to get better result. [6]

In this paper, a decentralized truthful price scheme primarily based on block-chain generation. The price device based on trusted third party through the usage of the smart contract technology of ethereum. In order to save you the trusted third party from achieving the bottleneck because of the excessive visits of users, the decentralized fee scheme is found out through the interaction among the customer node and the cloud storage server node.

On the one hand, based on the smart contract below ethereum block-chain, the gadget solves the hassle of fairness of charge underneath malicious circumstances and the opaque payment system in conventional charge, and the price technique is traceable. On the other hand, the system weakens the attacks that occur on the patron to some extent with the aid of combining our fair price scheme with deduplication. This paper proven that the cost of creating a fee to a cloud garage server via a patron is minimal. Drawback of this paper is that the decentralized structure is not complete. [7]

In this paper, the author propose a block-chain enable well-organized records collection and secure sharing scheme combining Ethereum block-chain and deep reinforcement-learning (DRL) to create a dependable and safe environment. In this scheme, DRL is used to attain the highest amount of collected information, block-chain technology is used to assure safety & reliability of information sharing. [8]



In this paper, we propose a product traceability system based totally on blockchain technology, in which all product transferring histories are continuously recorded in a distributed ledger by the usage of smart contracts and a chain is formed that can trace back to the supply of the products. Our machine has apparent decentralized characteristics, which appreciably reduces the possibility of privately tampering with data inside enterprises. Our system is characterised by records accessibility, tamper proofing, and resistance to man-in-the-middle attacks. [9]

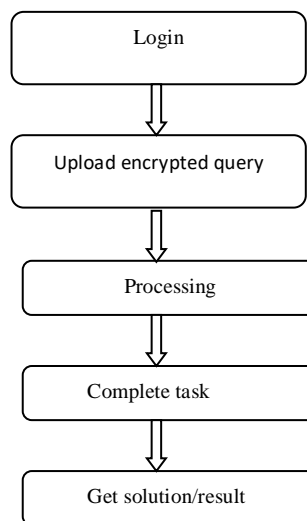
This paper proposed a new data sharing scheme primarily based on blockchain technology. Users can manage their records and recognize the information being collected about them and the way to use it with out trusting any third party. However, the scheme did not consider the possibility of the enterprise itself tampering with records. [10]

### **PROBLEM STATEMENT**

They may receive the task but not submit solutions on given time, which could discourage requesters from participating within the crowdsourcing system. In particular, they may deny the low-quality solution because there does not exist a third party to audit it, that's a believe problem.

### **III.PROPOSED METHOD**

In this we are using 3 modules i.e. User(requester), Worker and Admin.**Module 1** - Administrator (Admin):- Admin details and check user Details .**Module 2** - User (Requesters):- Requesters can post the task to the system and Get the accurate result. **Module 3** - (Worker): Workers solve the query give the proper solution to the task .



**Fig.1 Flow diagram**

### **ARCHITECTURE**

Requester post tasks, they need to initialize the examining rules and send to communication platform.

Through block-chain Workers, will receive the task and fetch the query which is upload by the requester. After finishing tasks in deadline, they post the message to the communication platform.

In block-chain miners will verify the users that the user is authorized or not. Miners will maintain the whole distributed ledger of various users.

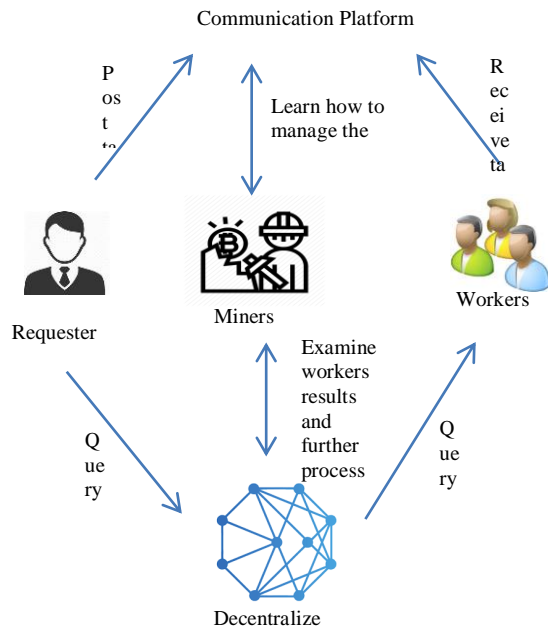


Fig.2 System Architecture

**Algorithm**

**Mathematical equation in Advanced Encryption Standard:**

Initialization: password, key, time, salt : string

Time ← get\_time

Input ← (password)

key ← salt + time

Encryption:

Ciphertext ← AES Encrypt(password, key)

Output(ciphertext)

Decryption:

Key ← salt – time

for as much tolerance given time

if key = get\_time

key ← salt + time

plaintext ← AES Decrypt(ciphertext, key)

end if

end for

output(plaintext)



#### IV.RESULT

Experiments are done by a personal computer with a configuration: Intel (R) Core (TM) i3- 2120 CPU @ 3.30GHz, 4GB memory, Windows 7, MySQL 5.1 backend database and jdk 1.8. This application is web based application used tool for design code in Eclipse and execute.

#### V.CONCLUSION

In this work, we propose a distributed and secure crowdsourcing platform with a robust recognition management scheme. The existing centralized schemes are liable to attacks on central servers or misuse through the primary authority. Using the block-chain based method we construct a platform this is less expensive than the existing, does not depend upon any third party and overcomes malicious manipulation of reputation and various other attacks on reputation system. It also provides traceability, prevents invalidated modification of records and gives fair share of reward for the worker and compensation for the assignment poster. The reputation score provided by the machine can be trusted because of immutability inherited through the system from block-chain.

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