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Decentralized Crowdfunding Using Blockchain

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ABSTRACT—

Decentralized Crowdfunding using Blockchain is an innovative approach to revolutionize the traditional crowdfunding model by leveraging the security, transparency, and efficiency of blockchain technology. In this system, fundraising campaigns are facilitated through smart contracts on a decentralized blockchain platform. Participants can contribute to projects using cryptocurrency, and every transaction is recorded immutably on the blockchain, ensuring transparency and accountability.Smart contracts, programmed self-executing agreements, automate the fundraising process, enabling transparent and trustless execution of contributions and rewards distribution. The decentralized nature of the blockchain eliminates the need for intermediaries, reducing fees and increasing the speed of transactions. Additionally, the use of blockchain enhances the security of financial transactions, mitigating the risks of fraud and ensuring that funds are used as intended.

Keywords- Blockchain, Decentralized, Crowdfunding

INTRODUCTION :

Decentralized Crowdfunding with Blockchain presents a paradigm shift in fundraising practices by leveraging blockchain technology's revolutionary powers. Traditional crowdfunding systems frequently face challenges of trust, transparency, and hefty intermediary costs. In response, decentralized crowdfunding uses blockchain's inherent capabilities to establish a secure, transparent, and efficient fundraising ecosystem.

At its core, this unique solution automates and enforces fundraising campaign terms using smart contracts, which are self-executing code on a blockchain. Contributions in cryptocurrency are recorded on an immutable ledger, assuring the transparency and traceability of each transaction. By eliminating intermediaries and using decentralized networks, the concept lowers costs while increasing transaction speed and efficiency. Furthermore, the blockchain's decentralized structure fosters trust by creating a tamper-resistant and verifiable record of each crowdfunding campaign.

Decentralized Crowdfunding with Blockchain not only overcomes the problems of existing models, but it also offers up new avenues for global, inclusive fundraising, making it more accessible to a wider audience. This introduction sets the stage for understanding how blockchain technology is transforming crowdfunding by providing a secure, transparent, and decentralized alternative to traditional fundraising techniques.

Decentralized crowdfunding is transforming fundraising by utilizing blockchain technology. Unlike traditional platforms that employ middlemen, it establishes a peer-to-peer network. Imagine a secure public ledger that tracks every transaction; that is blockchain. Here, smart contracts, or self-executing code, automate the movement of payments. These contracts allow project developers to define fundraising goals and terms. Investors donate cryptocurrencies directly, and funds are distributed only once certain milestones are fulfilled, increasing confidence and transparency. This disintermediation technique lowers fees and expands a worldwide pool of possible investors, democratizing access to cash for creators and fostering a more secure, efficient fundraising environment.

LITERATURE SURVEY

1.Crowdfunding the Insurance of a Cyber-Product Using Blockchain.

Organisations are interested in transferring their cyber-risks to insurers in order to reduce the expense of cyberthreats. However, cyber-insurance has not been widely embraced due to a number of challenges. The lack of trustworthy data to estimate cyber hazards complicates insurance premium calculation. Second, there are legal and regulatory barriers to analyzing an organization's security posture, which deters insurers from auditing. On the

other hand, blockchain technology has gained widespread popularity because to its capacity to give transparency and security. Blockchain uses a distributed ledger to maintain transaction histories, which are saved across a network of computers rather than on a single server.In order to improve the use of cyber-insurance, we present a novel framework for insuring a cyber-product utilizing blockchain technology.First, a vendor submits a request to insure a cyber-product, and then interested insurers participate in a sealed-bid auction by bidding on their chosen insurance premium. The auction winners will be chosen as the insurers, and they will get tokens in exchange for their commitments. In the case of an indemnity request, the auditor validates the request before calling the claim function to recover the appropriate amount from the cash collected from the insurers. Furthermore, we suggest a new way for implementing a sealed-bid auction for insurance crowdfunding via smart contracts.

2.Crowdfunding Platform Using Blockchain Technology

Crowdfunding is an online fundraising platform that allows anyone to donate small amounts to support businesses or medical situations. Blockchain was initially utilized for cryptocurrency, but is now a widely used technology in other businesses. Blockchain technology is expected to be widely adopted for efficient online transactions in the future. Current crowdfunding methods lack control over the monies donated by third-party middlemen and donors.

This study provides a blockchain-based crowdfunding network that uses Ethereum smart contracts for privacy, security, and decentralization. Our main goal is to enable global contributors to contribute to campaigns using Ethereum and smart contracts, while also allowing campaign creators and contributors to reserve financing for projects or campaigns.

3.Crowdfunding Platform using Smart Contract

This study explores the use of blockchain technology to create a crowdfunding platform. The essay begins by discussing the present state of crowdfunding and the flaws of traditional platforms, such as transparency, security, and centralization. The article introduces blockchain technology through smart contracts, emphasizing its decentralized nature and ability to provide transparent transaction records. It also discusses its potential to address problems. This article explores the architecture and functionality of a blockchain-based crowdfunding platform as a case study. The platform provides secure and transparent fundraising, money tracking, and incentive fulfillment. The study explores the benefits and challenges of launching such a platform, including user acceptance and regulatory issues. The purpose is to employ Ethereum, specifically smart contract technologies, to facilitate global participation in fundraising campaigns.

4.Decentralized Crowdfunding Platform Using Ethereum Blockchain Technol ogy

Blockchain-based systems are increasingly popular in different industries due to their safe, trusted, and decentralized network, as well as their efficiency over older techniques. Traditional methods face complicated and insecure networks, posing significant hurdles. Blockchain network integration addresses challenges in traditional approaches across industries. The Blockchain network offers benefits including greater security, transparency, efficiency, and reduced fraud. Blockchain-based solutions offer numerous benefits, but implementation rates remain low due to a lack of information about the technology. This article distinguishes between traditional crowdfunding platforms and blockchain-based platforms, and discusses the advantages of deploying blockchain networks in various industries.

5.Blockchain-based Distributed Secure Crowdfunding and Decision Making Platform for Large-scale Business Projects in Public and Private Sectors

Business initiatives are a critical component of any country's economy. Many people have amazing business ideas but lack the funds to launch them. Obtaining a loan may be challenging for a new business owner. However, a big number of people may seek investment opportunities. However, they may not have enough money to invest in business on their own. Group investing may cause more friction during conversations. Furthermore, the issue of trust will escalate. Our research suggests a blockchain-based crowdsourcing and decision-making platform for large-scale initiatives in the public and private sectors. A business owner may submit a plan and invite investors based on their agreement. Investors can contribute to project decision-making by voting on certain activities. This platform addresses the trust issues and problems associated with traditional investing procedures for large-scale commercial enterprises. Agreements and votes are permanently recorded in a distributed ledger, and decisions are made without the need for human intervention, making the system more dependable and secure.

6.Venturing Crowdfunding using Smart Contracts in Blockchain

This paper proposes the blockchain based crowd funding by using which the platform can give a private, secure and decentralized path for crowdfunding. The main objective ofthis paper is to let investors contribute to any project effectively by creating smart contracts through which the contributors can have a control over the invested money and also both the project creators and investors can effectively make and reserve funding for the project

7.IoT-Crowdfunding Platform Using Blockchain Technology

The goal is to tackle these issues by integrating Ethereum smart contracts into the crowdfunding site, allowing the contracts to be fully automated and preventing fraud while also fostering a healthy relationship between the fundraisers, platform, and contributors.

8.Crowdfunding using Ethereum Blockchain

We have provided interactive forms for campaign creation, contribution and request approval through which both campaign creators and contributors can easily create and pool the campaigns.

9.Crowdfunding Platform using Smart Contracts

In this paper, the architecture and functionality of a crowdfunding platform built on a blockchain network are examined as a case study. The platform enables safe and transparent fundraising, money tracking, and incentive delivery.

Research Gap

Decentralized crowdfunding utilizing blockchain technology has received a lot of attention in recent years because of its potential to transform fundraising methods. Despite the increased interest and acceptance of this new technique, significant research gaps remain. One of the primary gaps is the need for further in-depth research into the scalability of decentralized crowdfunding systems. As the number of projects and participants grows, guaranteeing the platform's scalability becomes critical to its long-term viability. Furthermore, there is a scarcity of detailed study on the regulatory challenges and legal frameworks governing decentralized crowdfunding via blockchain. Understanding the legal consequences and regulatory requirements is critical to maintaining compliance and preserving the interests of all parties in the crowdfunding process.Addressing these research gaps will not only improve our understanding of decentralized crowdfunding, but will also help to design more resilient and sustainable crowdfunding platforms in the future.

PROPOSED METHODOLOGY

The implementation methodology for Decentralized Crowdfunding with Blockchain includes a complete way to effortlessly integrating blockchain technology into the crowdfunding process. Initially, the project specifies its objectives and scope, then selects a blockchain platform that meets the needed features and scalability criteria. Smart contracts, which serve as the decentralized system's backbone, are rigorously created and built to regulate the fundraising lifecycle, establishing contribution rules, reward distribution, and campaign completion conditions while putting security first.

APPLICATION

Decentralized Crowdfunding with Blockchain offers a transformational alternative to the traditional fundraising landscape, harnessing blockchain technology's inherent benefits. This concept radically changes the way campaigns are begun, funded, and managed by utilizing smart contracts on a decentralized blockchain network. The method enables direct, peer-to-peer bitcoin transfers, removing the need for intermediaries and lowering transaction fees. This decentralized nature not only provides openness, but also improves the security of financial transactions, lowering the danger of fraud and ensuring that money are used as intended.

SYSTEM ARCHITECTURE

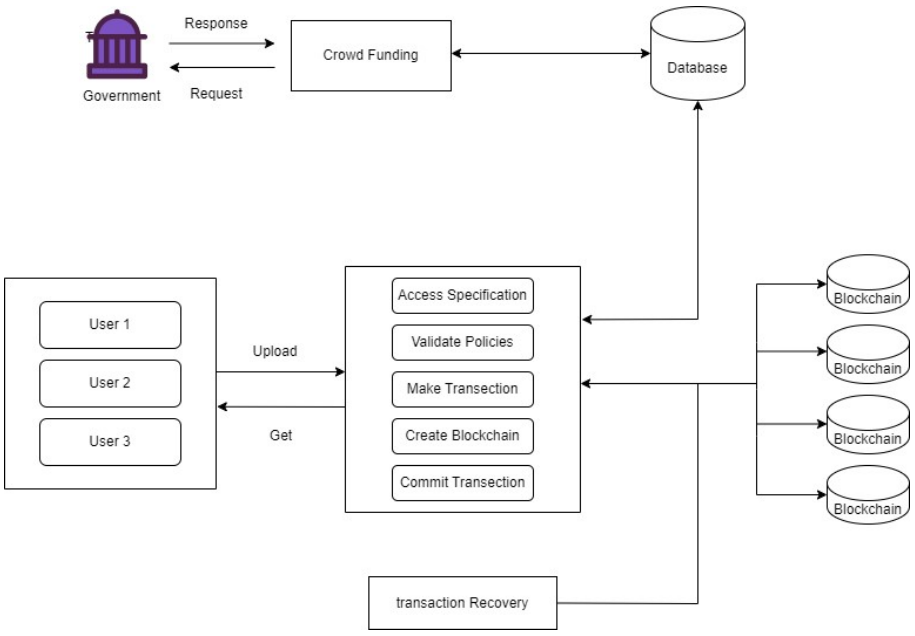

Fig. 1 System Architecture

ALGORITHM

SHA Algorithm :

The SHA algorithm, which stands for Secure Hash Algorithm, is a cryptographic hash function used in various security applications. It generates a

fixed-size hash value from input data, making it useful for verifying data integrity and creating digital signatures.The SHA algorithm, or Secure Hash Algorithm, is a widely used cryptographic hash function. It takes an input message and produces a fixed-size hash value, typically represented as a string of numbers and letters. The main purpose of SHA is to ensure data integrity and security. It's commonly used in digital signatures, password storage, and data verification.

Algorithm 1: Protocol for Peer Verification
Input : User get IP address, User Transaction TID,
Output : Enable IP address or current query if any connection is valid
Step 1 : User generate the any transaction DDL, DML or DCL query
Step 2 : Get current IP address
If (connection(IP) equals(true))
Flag true
Else
Flag false
End for
Step 4 : if (Flag == true) Peer to Peer Verification valid
Peer to Peer Verification Invalid
End if
End for

Algorithm 2: Hash Generation
Input : Genesis block, Previous hash, data d,
Output : Generated hash H according to given data
Step 1 : Input data as d
Step 2 : Apply SHA 256 from SHA family
Step 3 : Current Hash= SHA256(d)
Step 4 : Return Current Hash

Algorithm 3: Mining Algorithm for valid hash creation
Input : Hash Validation Policy P[], Current Hash Values hash Val
Output : Valid hash
Step 1 : System generate the hash Val for i th transaction using Algorithm 1
Step 2 : if (hash Val. valid with P[])
Flag =1
Flag=0
Step 3 : Return valid hash when flag=1

Algorithm 4: Recover Block Chain Data
Input : User Transaction query, Current Node Chain C Node[chain], Old Nodes
Chain [Node id]
Output : Recover if any chain is invalid else execute current query
Step 1 : User generate the any transaction DDL, DML or DCL query
Step 2 : Get current server blockchain C chain ← C node[Chain]Step 3 : For each (read I into Node Chain)
If (!.equals Node Chain[i] with (C chain))
Flag 1
Else Continue Commit query
Step 5 : if (Flag == 1)
Count = Similary Nodes Blockchian()
Step6 : Calculate the majority of server
Recover invalid blockchain from specific node
Step7 : End if End for End for

OBJECTIVE

- To create a secure and transparent platform for crowdfunding initiatives.
- Real-time verification of project development and usage of funds builds trust and accountability among creators and backers.
- The goal is to create a trustworthy platform that promotes confidence and encourages participation in crowdfunding.

EXPERIMENTAL ANALYSIS

Experimental analysis of decentralized crowdfunding utilizing blockchain entails conducting empirical experiments to assess the performance, efficiency, and effectiveness of this fundraising mechanism. These experiments usually include creating controlled settings to evaluate different facets of decentralized crowdfunding platforms. To examine the platform's overall functionality, researchers can look at issues including transaction speed, cost, security, and user experience. Researchers can draw conclusions about the pros and disadvantages of decentralized crowdfunding utilizing blockchain technology after gathering data from these experiments. The experimental investigation seeks to provide useful insights into how blockchain-based crowdfunding functions in real-world scenarios, assisting in identifying areas for improvement and optimization.

CONCLUSION AND FEATURE SCOPE

The Blockchain-powered Crowdfunding Platform is operational and secure to use. Traditional crowdfunding systems are prone to fraud and unreliability. A strong solution can be implemented to address long-standing concerns, making it a preventive problem. The goal of creating a transparent, anti-fraudulent, and decentralized platform was successfully achieved. The project aimed to improve crowdfunding transparency and confidence, enabling individuals to donate to great causes without fear of scams.

The future of Decentralized Crowdfunding using Blockchain is primed for rapid growth and dramatic innovation. As technology advances, one of the important trends is the tokenization of assets. Blockchain's capacity to represent real-world assets as tokens has the potential to revolutionize crowdfunding by providing backers with tokenized equity, real estate, and a variety of other assets, extending the range of investment alternatives. This shift to a more diversified and adaptable asset-backed crowdfunding approach has the potential to transform project finance.

REFERENCES :

1. [1] A. Marotta, F. Martinelli, S. Nanni, A. Orlando, and A. Yautsiukhin, “Cyberinsurance survey,” Computer Science Review, vol. 24, pp. 35– 61, 2017.

2. [2] Blockchain in insurance: applications and pursuing a path to adoption,” https://www.ey.com/Publication/vwLUAssets/EY-blockhain-in-insurance.

3. [3] M. M. Khalili, P. Naghizadeh, and M. Liu, “Designing cyber insurance policies: The role of pre-screening and security interdependence,” IEEE Transactions on Information Forensics and Security, vol. 13, no. 9, pp. 2226–2239, 2018.

4. S. Chekriy and Y. Mukhin, “i-chain.net.wpaper rev 005,” https://i-chain.net/ichain.net.wpaper rev 005.pdf, May 2018, (Accessed on 09/03/2018).

5. “Blockchain: An insurance focus - milliman insight
,” http://www. milliman.com/insight/2016/Blockchain-An-insurance-focus/,
(Accessed on 09/03/2018).

6. Nikhil Yadav,Sarasvathi V,“Venturing Crowdfunding using Smart Contracts in Blockchain”,978-1-7281-5821-1/20/$31.00 ©2020 IEEE.

7. Dr. R. Senthamil Selvi1, SuryaPrakash R2,“Crowdfunding Platform Using Blockchain Technology”,© June 2022 | IJIRT | Volume 9 Issue 1 | ISSN: 2349-6002.

8. Ritvik Gupta1, Mayank Yadav2,“Crowdfunding using Ethereum Blockchain”,Volume 10 Issue V May 2022- Available at www.ijraset.com.

9. Raunak Sulekh,Manas Katiyar, Devang Trivedi,“Crowdfunding Platform using Smart Contracts”,Volume 8, Issue 6, June 2023 International Journal of Innovative Science and Research TechnologyISSN No:-2456-2165.