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Decentralized Crowdfunding Platform Based on Blockchain Technology

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ABSTRACT: Crowdfunding is a method of raising funds from a large number of funders to start a new business or for charitable purposes using the internet. An important factor for the people involved in raising these funds is trust and the temporary funds of the recipient is stored in the fundraising organization, so to attract funders to donate their funds to the recipient, trust is the important capital for the fundraising organization. In the existing method of online crowdfunding, the contributor does not have any control over the money that they have contributed. Since in the existing method the fundraising organization has all the control over the money contributed, they can very easily perform malicious activities. The problem faced by this existing system can be addressed by using blockchain concept. Blockchain in crowdfunding allows decentralization which suggest that nobody within the network as control over the blocks which makes it transparent to everyone within the blockchain. In this proposed method all the activities performed in a crowdfunding campaign are managed by using the blockchain concept. Each transaction is recorded in the blockchain network to ensure that the amount is received by the valid recipient and also the voting rights are given to those funders who funded to the crowdfund. Voting takes for understanding the majority opinion about using funds for specific predefined subject.

KEYWORDS: Crowdfunding, Blockchain, Transaction.

I. INTRODUCTION

Crowdfunding is a method of raising funds from a large number of funders to start a new business or for charitable purposes using the internet. Crowdfunding enables us to easily access a vast network of people through crowdfunding website that brings funder and fundraiser together. In present day crowdfunding platform, the money donated by the funder is temporarily stored in fundraising platform so the funder will have no control over the money that they have donated. The third-party involvement incurs additional cost. To overcome this issue many decentralized application have been created for peer-to-peer communication between the funder and fundraiser. The advantages of blockchain have created a way to make peer to peer communication more secure, cost efficient and transparent. Hence by using blockchain in crowdfunding we can change the traditional way of crowdfunding.

The issue faced during today's world of crowd funding technique is, intermediary doesn't give the assurance to the investor who contributed money for the project and also the investor doesn't have any control over the cash they invested. In case of donor, he also don't have control and don't know about his donated money is been using in right purpose or not.

To overcome this major problem, a blockchain based technique is used to provide a private, secure and decentralized platform for crowd funding. The main objective is to create a smart contract to let investors contribute to any innovational ideas where the assurance of the money is guaranteed through the voting system which the proposed system is providing.



II. LITERATURE SURVEY

S R N O	PAPERNAME & AUTHOR NAME	YEAR	METHODOLOGY	RESULT/OUTCOME	ADVANTAGES	DISADVANTAGES
1.	Crowdfunding the Insurance of a Cyber-Product Using Blockchain	2018	Used BLOCKCHAIN AND SMART CONTRACT -> The automatic transferring of assets and automatic claim processing The automatic transferring of assets and automatic claim processing; Ethereal; CROWDFUNDING A	1. Using blockchain technology, we present a framework to Insure a cyber-product. 2. propose a new method to implement a sealed-bid auction for the insurance crowdfunding in the smart contract of the blockchain	1. Transparency 2. speed up the investment process, Reducing the time to market. 3. Cyber-product Insurance 4. Risk Sharing through low-risk tolerance insurers	1. To many entities to participate in model -> Vendor, Customer, Auditor, and Insurer. 2. Moral Hazard and Adverse Selection: Moral hazard refer after getting the insurance.
2.	Alternative Fundraising: Success Factors for Blockchain-Based vs. Conventional Crowdfunding	2019	Due to specific characteristics of blockchain-based crowdfunding, regulatory frameworks may require potential re-interpretation of requirements to allow an effective application of regulations; To fill this knowledge gaps, it reviewed a set.	contribution of our work is a better understanding of the distinctions and similarities of blockchainbased crowdfunding compared to traditional crowdfunding	Useful for understanding the blockchain based crowdfunding against conventional crowdfunding	1. distinctive factors deserve closer inspection, taking into account the unique technical characteristics of blockchain 2. empirical studies are needed to validate and quantify the effect.
3.	LikeStarter: a Smart-contract based Social DAO for	2019	Ethereum -> decentralized implementation of a distributed ledger that records a set of	LikeStarter is a social service that enables every registered user to spread his productions in the platform,	1. Decentralized 2. consensus system 3. Security 4. Decentralized Autonomous	1. Not easy to change currency type 2. Need of Likecoins only



	Crowdfundi ng		transactions generated by multiple users; Smart Contracts: digital contracts where rules are stated through code.		Organization (DAO) is used	
4.	Venturing Crowdfundi ng using Smart Contracts in Blockchain.	2020	To implement the crowdfunding platform, a smart contract is needed which has to be written in solidity language. Then this is compiled and deployed in the ethereum blockchain using solidity compiler.	The output of solidity compiler was bytecode and the interface is deployed into ethereum blockchain by using metamask. After deploying the project, a decentralized web app is created with a frontend for creating a new project.	1. Authenticity 2. Confidentiality 3. Smart System 4. No Third Party 5. Trust	1. Complexicity 2. Limited Mechanism. 3. No Paper work.
5.	Performance Analysis of Decentralize d Ethereum Blockchain System.	2020	The contracts are written in solidity, once the code is compiled in solidity compiler the compiler provides two separate files, the first one provides the byte code which is to be deployed to the Ethereum network second is ABI.	The output of solidity compiler is 4 pages with 1 page containing creating a campaign, Further creating a request campaign, Approving request campaign and final page contains Finalizing campaign.	1. Transparency 2. Authenticity 3. Simplicity 4. No Third Party 5. Trust	1. Limited Mechanism 2. No Paper Work 3. Simplicity
6.	Decentralize d Crowdfundi ng	2022	Use Of Remix IDE, Solidity; Smart Contract for authentication of investors/doners for specific need and give them voting rights at the time of using that currency for specific purpose	The invested/donated money in the form of cryptocurrency use for that specific purpose and only after the majority of investors accepted through voting. Smart Contrat made binding agreements of target and time for investing.	1.Decentralized 2.Security 3.Assurance to investor/doner 4.Voting for using the cryptocurrency 5.Control of investors/doners on the money they funded	Limitations: Challenge of Scalability and Support of People for investing/don ating in it

III. SYSTEM DEVELOPMENT

III.1 BLOCK DIAGRAM:-

Fundraiser will raise their funds by describing the need and providing some proof if available. Then the funder can view all the information posted by various fundraiser. If the funder wishes to donate for any particular cause they can proceed with it. Then the money that is donated by the funder will be added to the account of the fundraiser. The sum of the amount that has been donated by all the funders will also be displayed, with the help of this we can identify whether the specified amount has been reached or not. If the specified amount has been reached then the particular post will be automatically removed from the platform. Once they donated the money to the fundraiser the information of the transaction is stored in blockchain and that information can be viewed by both the fundraiser and funder. The funder can track their money until the transacted amount reaches the valid recipient.

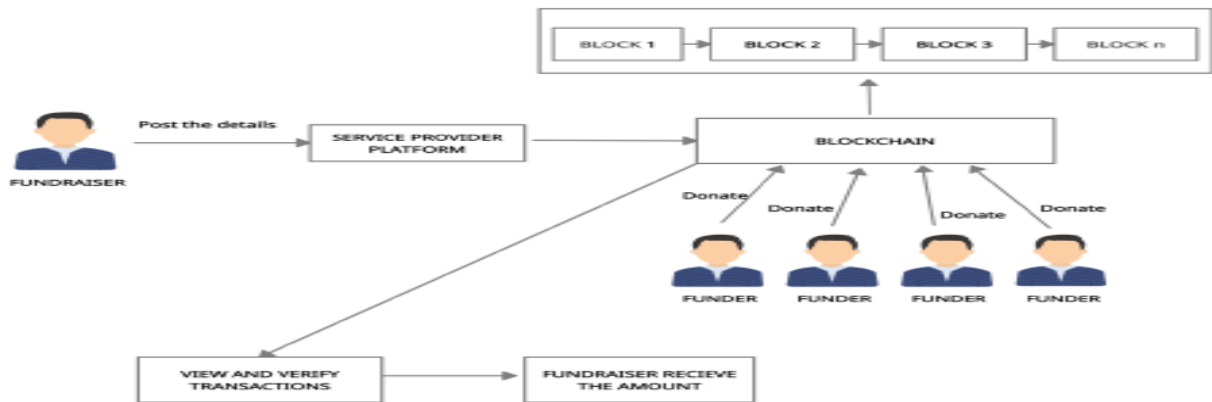
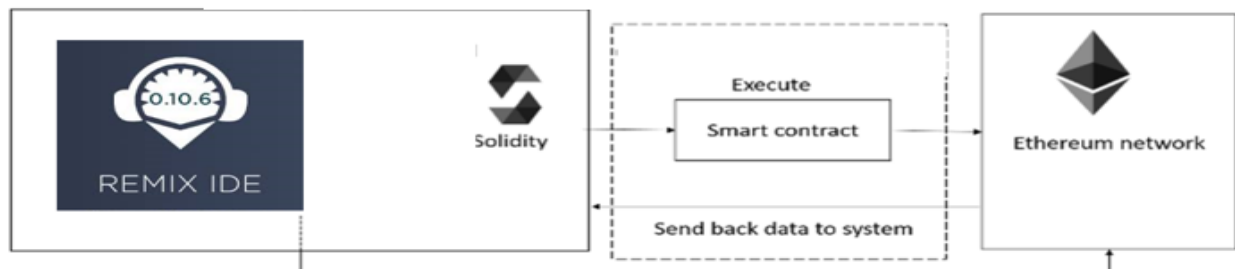


Fig.1: The block diagram of Crowd funding system

III.2 SOFTWARE DESIGN:- For Funding to the campaign of Fundraiser the funder account which is connected to the remix ide. The system is build on top of the Remix ide by using the Solidity Programming language that creates the smart contract. The smart contract adding various functionality to the Crowdfunding project and it is connected to the ethereum network. The data of transactions is been stored in Etherscan platform.



III.3 FLOWCHART:

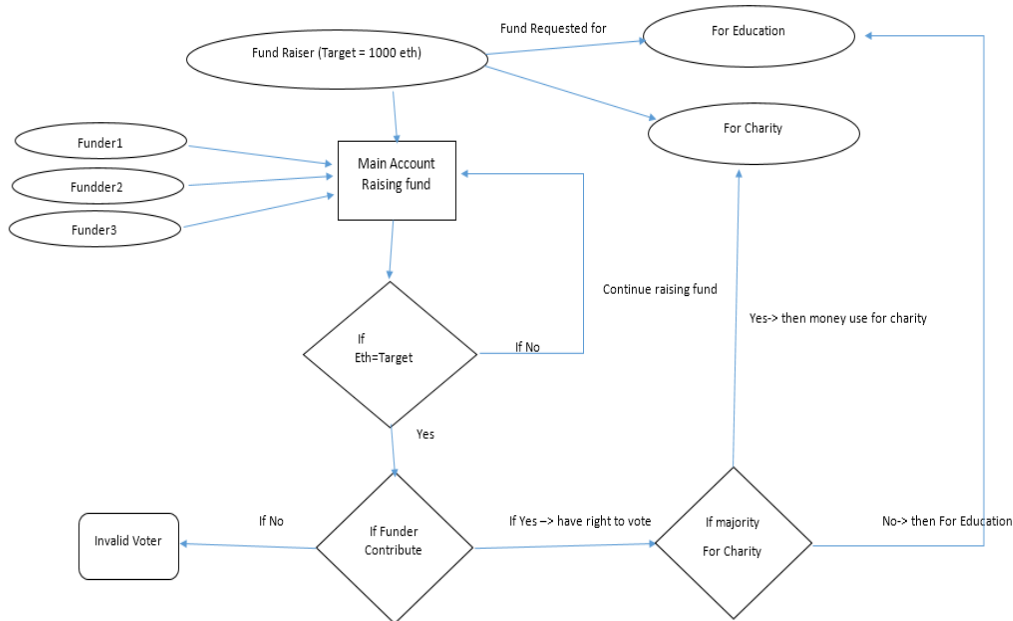


Fig.2: Flowchart of the Crowd funding system

Fundraiser raiser set target of raising ethers and he started campaign for it. He specifically request the funding for various projects beforehand. Fund raising from funders is collected in metamask account of manager (Fundraiser). As soon as the collected ethers are become equal to target then the voting process become on.

System check if the funder who want to vote is raised fund or not, if he didn't he denied for voting. The funders who contributed having right to vote for deciding where the fund will use.

In voting system majority prevails always. In above example the voter's gives majority for the charity then the fund is used for charity. From this system we can see that everything is transparent for funders and they know what is happening with their ethers

Flow

1. Fundraiser will set the target and specify projects for funding and start campaign.
2. Funders will start funding.
3. Fund will be Collected in Managers metamask account.
4. Then system will check, if the raised fund is equal to target or not then start or initialize voting for releasing the fund.
5. Before starting the further process, voting system will check the person who is trying to vote has funded the project or not.
6. If he did not fund to the project, he will be denied for voting.

7. If he has contributed others for the project then only he will get the right to vote.
8. The project that gets majority of votes or most no of votes will be funded.

IV. CONCLUSION

Integrating blockchain technology to crowdfunding will mitigate the risks facing it in the present day. Disadvantages faced by the traditional crowdfunding has been overthrown with the help of blockchain technology in crowdfunding. An important factor for the people involved in raising these funds is trust. With the use of the blockchain concept in the crowdfunding, ensures trust of this crowdfunding platform and also reduces the cost of the third party. The system provides the equal say to the funders about the use of their funds on specific defined matters through voting on the platform by the funders who funded the crowdfund only. In future our work can be further enhanced by adding functionality that if the fund is not utilized totally then we try to return the amount to investors depend on their fund was funded. With the help of blockchain technology in the crowdfunding platform the people trust the crowdfunding platform and be a part in this crowdfunding network. Blockchain technology eliminates information asymmetry in its entirety thus suiting every stakeholder's needs for proof of authenticity.

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