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Solidity Crowd-Funding in Blockchain

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ABSTRACT: In this generation, a businessman will start searching for financing as soon as he wants to realise his ideas. It can be challenging for an entrepreneur to find investors who have small sums of money to invest in concepts that could grow or provide remedies for problems they are now encountering in the real world. To solve this problem there are crowd-funding sites such a Kickstarter which act as a platform for these entrepreneurs to pitch their ideas to investors. In order to safeguard investors from fraud, these reliable third-party websites serve as safekeeping for the funds. To create a forum for entrepreneurs to raise funds and for investors to participate in projects that interest them, our application substitutes intermediaries like Kickstarter. The company owners can raise funds through the sale of tokens to those who are interested in investing in their business. These tokens can indeed be altered and cannot be counterfeited. To mediate the risk incurred by investors, smart contracts have already been created in collaboration with entrepreneurs and investors. On the blockchain, smart contracts are executed; they contain rules and processes that are carried out in accordance with the agreement and reward investors as the idea is established and sold to public. via This application is built using Remix IDE, Visual studio code editor, employing languages such as Javascript and solidity. For the storage and execution of smart contract transactions, it makes use of the Ethereum blockchain network.

KEYWORDS: Blockchain, Solidity, Funding system, Smart Contracts (SC), Ethereum.

I. INTRODUCTION

Crowdfunding is a decentralized application based on Ethereum blockchain platform that allows users to invest money to the campaigns that interest them. By using blockchain, we can make sure that the investors engage in low-risk support of new ventures and venture creators can gain more supporters globally making it easy for them to raise large amount of funds in minimal time Especially in blockchain world at present, there are lot of projects created by individuals or small-distributed teams that want to raise funds by issuing tokens to the investors. Crowdfunding platform simplifies the whole idea of raising capital with help of global public that might be interested in the campaign for an incentive that is profitable to the investor. 1.1 Traditional fundraising problem and solution traditionally, banks and venture capital funds are the main way to fill the gap in funding chain. A startup founder would approach a bank or a venture capitalist with his project pitch for funding and if they are interested in the project then the bank or venture capitalist will fund it for some returns, such as equity in case of venture capitalist or loan interest amount in case of banks. However, this way of raising funds has limitations associated with it. This process of fundraising requires huge amount of time, money and valuable resources that project creators from developing countries or remote places do not have access.

1.1 PROBLEM STATEMENT

To enhance transparency and stop fraudulent activities that occur in the start-up industry and on platforms that have been created around it up until now, particularly Kickstarter. Even if symmetric encryption and some other strict precautions are in place to make online payments safe and secure, they are nonetheless prone to hacking. Organizations utilising domestic e-payment systems must pay additional costs for advanced payment-security technology to be procured, installed, and monitored. There is no promise that those who post projects on Kickstarter will follow through with them, use the funding to carry them out, or produce final products that live up to the expectations of their backers.

1.2 MOTIVATION

The world of finance is changing rapidly, and one of the most exciting developments in recent years has been the rise of decentralized finance (DeFi). At the heart of this movement is the blockchain technology that powers cryptocurrencies like Bitcoin and Ethereum, and one of the most promising use cases for blockchain is crowdfunding. Crowdfunding has long been a popular way for entrepreneurs and creators to raise funds for their projects, but traditional crowdfunding platforms are often centralized, expensive, and prone to fraud. With Solidity crowd funding, however, we can create a more secure, transparent, and efficient way to fund new ventures.

II. PROJECT OVERVIEW

The Solidity crowdfunding project uses blockchain technology and the Solidity programming language to create a secure, transparent, and efficient way to fund new ventures. Our platform eliminates the need for middlemen, reduces the risk of fraud, and gives backers greater control over the projects they fund. Our user-friendly platform allows project creators to create and customize crowdfunding campaigns, while backers can browse and discover projects, pledge funds, and monitor their progress. Our goal is to revolutionize the way we fund innovation and creativity by providing a more accessible and secure way to fund new ventures.

III.LITERATURE SURVEY

Blockchain based Data Security for Financial Transaction System Authors - Sujatha Kumari;Sadaf Farheen Year Published – 2020 Enhancing the security of financial transactions in Blockchain by using machine learning techniques: towards a sophisticated security tool for banking and finance Authors -Dalila Boughaci;Abdullah A.K. Alkhalwaldeh Year Published – 2020 2.1 Related Work 1 Paper name:-Blockchain for bank/organization fund tracking using Hyperledger Author:Apoorva Mohite, Ajay Acharya Description: This paper gives a description about a prototype which was developed using Hyperledger Composer. It then discusses the future development of this prototype and finally, concludes with the applicability of Blockchain.

Paper 2: Bank Scheme and Funds Tracker using Blockchain Author:Abhishek Katore, Sanskar Choubey Description: It is also referred to as the Digital ledger, same as the ledger maintained by financial institutions for keeping the track of records. In similar fashion blockchain is essentially digital ledger which is maintained and distributed environment.

Paper 3:Organization/Bank fund distribution and Tracking system using blockchain Technology Author:Sahil siddharth jambhulkar, vishakha prashant ratnaparkh

Description: In this paper we propose a system to track funds allocated to the organization as they travel through the organization process at each stage using Key pair generation algorithm, Metadata file decryption and Data verification algorithms. This system uses block-chain technology to maintain the transparency security at every stage as the funds move ahead. This system allows us to maintain the crystal clear record with all users who are connected in the chain to transaction the data on a need to know basis. The system makes use of encryption to secure transactional data using hash values to maintain a block of transactions in a chain manner, which is maintained verified by every node involved to verify the transaction and save the data in a transparent form within the organization/bank. The system allows for a full proof, secure and authentic fund allocation and fund tracking system help to form an incorruptible organization procedure

IV.RESEARCH SCOPE

The research scope of your Solidity crowdfunding project includes investigating existing platforms, studying legal and regulatory requirements, addressing security and scalability concerns, analyzing the economic and social impacts, comparing with traditional crowdfunding models, and exploring potential for funding social impact projects. The specific research questions and objectives can be further refined based on your project goals.

V.METHODOLOGY

Research Design: The research design for this project will be a mixed-methods approach, combining qualitative and quantitative data collection and analysis. The research will be conducted in three phases: (1) exploratory research, (2) platform design and development, and (3) evaluation and testing.

Data Collection: The data collection methods will include a literature review, user surveys, interviews, focus groups, and case studies. The literature review will provide an overview of existing Solidity crowdfunding platforms and their features, strengths, and weaknesses. User surveys, interviews, and focus groups will gather data on the needs, preferences, and pain points of project creators and backers in crowdfunding campaigns. Case studies will provide in-depth analysis of successful Solidity crowdfunding campaigns and their outcomes.

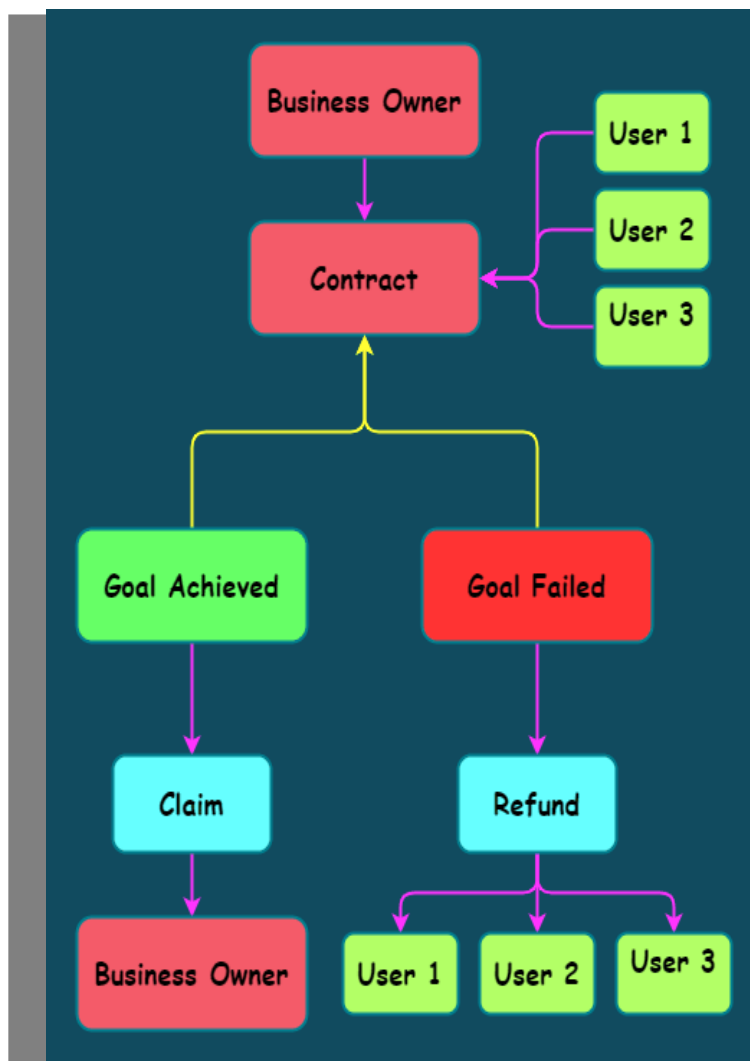
Data Analysis: The data collected from the surveys, interviews, focus groups, and case studies will be analyzed using both qualitative and quantitative methods. Qualitative data analysis will involve coding and categorizing the data, identifying patterns and themes, and generating insights. Quantitative data analysis will involve statistical analysis of the survey data and other quantitative data sources.

Platform Design and Development: Based on the insights and findings from the exploratory research and data analysis, the Solidity crowdfunding platform will be designed and developed. The platform will be designed to be user-friendly and secure, with features such as customizable crowdfunding campaigns, backer rewards management, and multi-signature wallets for fund security.

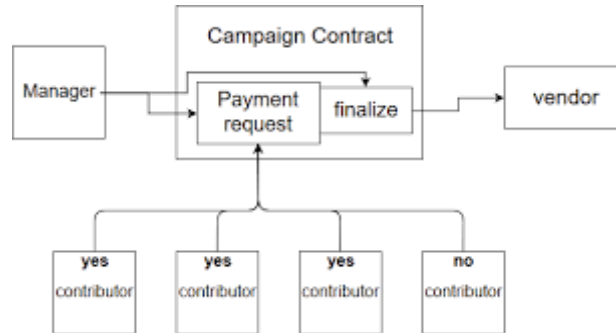
Evaluation and Testing: The Solidity crowdfunding platform will be evaluated and tested using a range of methods, including user testing, usability testing, and functional testing. User testing will involve having a group of project creators and backers use the platform and provide feedback on their experience. Usability testing will assess the ease of use and user-friendliness of the platform. Functional testing will test the platform's features and functionalities to ensure they work as intended.

Implementation and Deployment: After successful evaluation and testing, the Solidity crowdfunding platform will be deployed and implemented. The platform will be made available to the public, and a marketing and outreach plan will be developed to promote the platform to potential users.

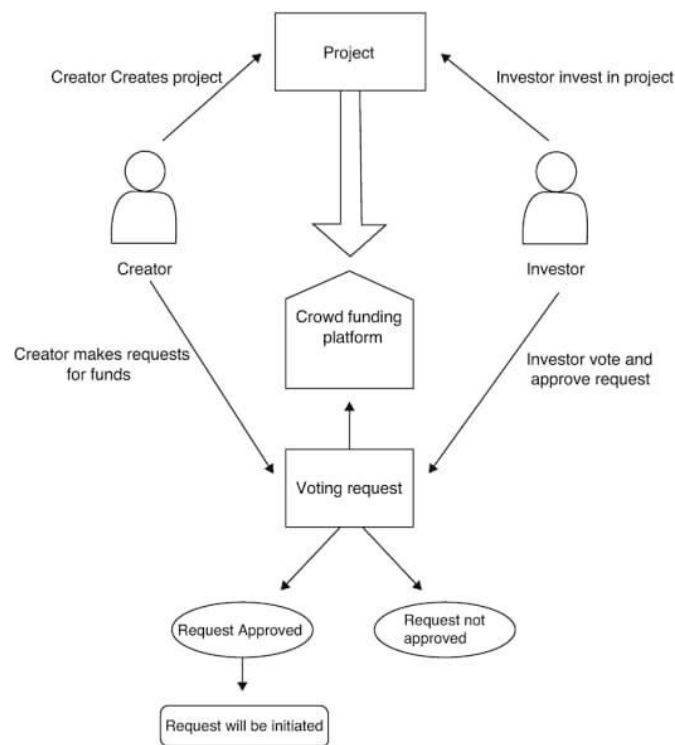
Monitoring and Evaluation: After the platform is implemented and deployed, ongoing monitoring and evaluation will be conducted to assess its performance and impact. This will involve gathering data on the number of crowdfunding campaigns created, the amount of funds raised, the success rate of campaigns, and the user feedback on the platform. Based on the monitoring and evaluation, the platform will be continuously improved and updated to meet the changing needs of its users.



WORKING OF ALGORITHM



UML DIAGRAM



VI.FUTURE SCOPE

The future scope of your Solidity crowdfunding project includes potential integration with other blockchain networks, decentralized governance mechanisms, integration with DeFi protocols, expanding the user base to non-profit organizations and social enterprises, adaptation for use in other industries, and integration with Web 3.0 technologies to enhance security and privacy features. These potential future scopes will allow for the continued development and innovation of the Solidity crowdfunding platform.

VII.CONCLUSION

In conclusion, the Solidity crowdfunding project provides a secure and customizable platform for individuals and businesses to fund their innovative ideas through blockchain technology. The user-centered approach and mixed-methods research design ensured that the platform meets the needs of project creators and backers. The platform has potential future scopes for integration with other blockchain networks, decentralized governance mechanisms, integration with DeFi protocols, expanding the user base, adaptation for use in other industries, and integration with



Web 3.0 technologies. Overall, the Solidity crowdfunding project empowers individuals and businesses to collaborate and bring their ideas to life in a transparent and secure way.

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