Integrating & Deploying Smart Contracts for Crowdfunding

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ABSTRACT
Crowdfunding has become a popular method of raising funds for innovative projects through online platforms. However, the lack of assurance and control for both investors and intermediaries has become a major challenge in the current crowdfunding system. To address this, a blockchain-based solution has been proposed to create a decentralized and secure platform for crowdfunding. By using smart contracts, investors can contribute to innovative ideas with the assurance that their money is secure. This technique provides greater transparency and reduces the need for intermediaries, resulting in lower commission levels. Additionally, the usage of cryptocurrencies in this system offers greater convenience for investors. The implementation of a blockchain-based crowdfunding platform has the potential to revolutionize the way innovative ideas are funded and supported in the future.

Key Words: Smart contracts, Ethereum, Cryptocurrency, Blockchain, Crowdfunding.

1. INTRODUCTION
Crowdfunding is rapidly gaining popularity as an effective and efficient means of raising funds for small-scale businesses and individuals with innovative ideas. With its wide reach and user-friendly interface, crowdfunding platforms offer an alternative way of raising funds without seeking venture capital. As per recent research, crowdfunding initiatives have raised a whopping $34 billion and added $90 billion in valuation to the global economy, surpassing traditional venture capital funding. This trend has provided an excellent opportunity for entrepreneurs and startups to access capital and gain support from a wider community, leading to a new era of innovation and growth.

To address these challenges, we have integrated smart contracts into crowdfunding platforms. Smart contracts are self-executing contracts that operate automatically, based on predefined conditions. They enable the platform to automate the verification of transactions and ensure that funds are released only when certain conditions are met.

The integration of smart contracts into crowdfunding platforms not only reduces the risk of fraud but also enables donors to request refunds if they change their minds about a project's potential midway. This gives donors the confidence that their funds will be secure and that they can back out if necessary.

Furthermore, incorporating smart contracts into crowdfunding platforms reduces the amount of money wasted, as it eliminates the need for intermediaries and reduces the possibility of errors. This helps to build trust in the platform, which is critical for its long-term success.

2. LITERATURE REVIEW
The crowdfunding market is experiencing a significant increase in size, especially in Asia and North America. Since the 2008 financial crisis, crowdfunding platforms have emerged as an alternative way to raise funds, especially for small businesses and individuals with creative ideas. In North America alone, $17.2 billion is raised yearly through crowdfunding, and the overall funds raised through crowdfunding platforms grew by 33.7% in the last year. Due to the lending policies used by banks, small businesses are turning to crowdfunding platforms for alternative lending methods. To ensure consumer safety and protection, several countries have regulated crowdfunding platforms. The overall market size of crowdfunding is predicted to be $124 billion by 2024, growing at a CAGR of 18% between 2021 to 2024. Among the various types of crowdfunding, peer-to-peer lending...
raised $25 billion, rewards and donations raised $5.5 billion, and equity crowdfunding raised $2.5 billion. Kickstarter is the most popular crowdfunding platform, with over 319,051 completed projects. The age group of 24 to 35 shows the most interest in supporting crowdfunding projects. According to research, posting information and videos about a fundraising campaign and its projects tend to get more funding compared to other campaigns. Crowdfunding platforms have contributed $65 billion to the global economy, with Asia being the second-largest region in raising funds, accounting for around $10.54 billion. Successful campaigns typically receive an average donation of $99, with many investors donating more. Interestingly, 42% of funds raised during crowdfunding campaigns are collected during the first and last three days of the campaign. In the world of crowdfunding, Indiegogo and Kickstarter are two of the most well-known platforms. While both offer rewards-based crowdfunding, Kickstarter prohibits funding for healthcare projects. Additionally, one unique aspect of crowdfunding is that projects do not necessarily need to be fully funded to receive contributions. This feature allows for greater flexibility and can help projects receive at least some level of funding, even if they fall short of their ultimate goal. Therefore, promoting heavily at the end of the campaign can lead to more success in achieving the goal. Additionally, a survey showed that if a project has successfully funded, there is a 78% chance of surpassing the originally planned amount.

3. EXISTING SYSTEM

The realm of centralized crowdfunding is dominated by a few well-known platforms, such as Kickstarter, Indiegogo, and GoFundMe. These platforms provide a convenient way for users to discover and support various projects. To initiate a fundraising campaign, users must provide detailed information about their project and wait for interested investors to contribute. Once the fundraising goal is achieved, the amount pledged by investors is transferred to the fundraiser's account, and rewards are distributed accordingly upon completion of the project. However, the current centralized crowdfunding system is not without its challenges. One major issue is the lack of trust between fundraisers and investors, which can lead to a reluctance to contribute to campaigns. Transparency issues are also common, as investors often have limited visibility into how their funds are being utilized. In addition, the centralized nature of these platforms means that they charge a fee of around 5% - 10% from fundraisers, which can reduce the overall amount of funds available to support the project.

As a result of these limitations, there has been growing interest in exploring alternative crowdfunding models. One potential solution is decentralized crowdfunding, which utilizes blockchain technology to create a more transparent and trustworthy system. By leveraging smart contracts, decentralized crowdfunding platforms can automate the fundraising process and provide greater visibility into how funds are being utilized. This approach can also eliminate the need for centralized intermediaries and reduce fees, allowing more funds to be directed towards the actual project.

4. PROPOSED SYSTEM

Our proposed system is a decentralized application that is powered by the Ethereum blockchain. The system's architecture ensures that all data related to campaigns, donations, withdrawal requests, and funds are stored on a decentralized, open-access blockchain network. This innovative approach eliminates the need for a centralized server and distributes the data across the nodes of the blockchain. As a result, data remains secure and accessible to all users, while providing transparency and accountability.

The proposed system provides a range of benefits over the existing centralized crowdfunding system. Firstly, it ensures complete transparency, as all transactions and details regarding the campaign are recorded on the blockchain and are accessible to all users. Secondly, the system leverages the usage of cryptocurrencies, allowing for fast and secure transactions. This feature eliminates the need for traditional financial intermediaries, making transactions more efficient and cost-effective. Finally, the proposed system reduces the levels of commission charged to fundraisers by the platform, as blockchain technology allows for more direct and efficient funding transfers.

In addition to these benefits, the proposed system has the potential to significantly enhance the reach and impact of crowdfunding campaigns. By leveraging blockchain technology, the system can facilitate the creation of global, decentralized fundraising campaigns that can be accessed and supported by anyone with an internet connection. This feature allows for greater diversity and inclusivity in fundraising, providing opportunities for smaller, underrepresented projects and causes to receive support and funding from a wider audience. The proposed system provides opportunities for smaller, underrepresented projects and causes to receive support and funding from a wider audience, making crowdfunding more accessible to a diverse range of individuals and organizations.
CONCLUSION

Our crowdfunding platform is designed with the main objective of promoting trust and transparency among users. By utilizing the Ethereum blockchain, investors have greater control and visibility over their funds. Compared to other popular blockchain networks, our platform has significantly lower transaction fees. Additionally, users can have peace of mind knowing that their information is secure and cannot be tampered with. Our ultimate vision is to create a decentralized crowdfunding platform that empowers individuals to transform their innovative ideas into reality.
REFERENCES

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