Report On

Trusted Crowdfunding using smart contract

Submitted in partial fulfillment of the requirements of the Course project in Semester VII of fourth year of Artificial Intelligence and Data Science

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CERTIFICATE

This is to certify that the project entitled **"Trusted crowdfunding using smart contract"** is a bonafide work of **"Shikha Chaudhary (Roll No. 03), Chetan Jawale (Roll No. 05), Devashree Pawar(Roll No.21), Prasad Shah(Roll No. 25)"** submitted to the University of Mumbai in partial fulfillment of the requirement for the Course project in Semester VII of fourth year **Artificial Intelligence and Data Science.**

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Chapter 1
Introduction

1.1 Introduction

The ever-evolving digital landscape has ushered in a paradigm shift in the dynamics of fundraising, with crowdfunding emerging as a powerful and inclusive mechanism for sourcing financial support. However, the lack of transparency and security within traditional crowdfunding platforms has raised concerns regarding fund mismanagement and fraudulent activities, leading to a growing demand for innovative solutions that can instill trust and credibility in the crowdfunding process. In response to these challenges, this report introduces a pioneering framework that leverages the capabilities of smart contract technology to establish a secure and transparent crowdfunding ecosystem. By harnessing the decentralized and tamper-proof nature of smart contracts, this framework aims to redefine the crowdfunding experience, ensuring that funds are allocated as intended and providing stakeholders with comprehensive visibility and accountability. Through a comprehensive analysis of the benefits and challenges associated with traditional crowdfunding, this report sets the stage for the exploration of the proposed smart contract-based solution, emphasizing its potential to revolutionize the crowdfunding landscape and foster greater confidence and participation among stakeholders.

1.2 Problem Statement

The contemporary landscape of crowdfunding platforms is plagued with issues surrounding transparency, security, and accountability, leading to a significant lack of trust among participants. The absence of reliable mechanisms for accurate fund allocation and tracking has contributed to widespread concerns about potential mismanagement of funds and fraudulent activities within the crowdfunding ecosystem. This lack of trust and transparency has hindered the effectiveness of numerous fundraising initiatives and limited the potential for meaningful and impactful campaigns. The existing platforms' shortcomings in providing comprehensive visibility into the fundraising process have further exacerbated concerns related to fund misuse and the enforcement of accountability measures. Consequently, there is an urgent need for a secure and innovative framework capable of redefining the crowdfunding paradigm, mitigating risks, and reinstating confidence among all stakeholders. This report aims to present a solution based on smart contract technology that seeks to revolutionize the crowdfunding experience, fostering a secure, transparent, and trustworthy fundraising environment for all participants involved.

1.3 Objectives

The main objectives of this project are as follows To develop a secure and transparent crowdfunding framework using smart contract technology to enhance trust and confidence among participants.To automate the allocation and distribution of funds in the crowdfunding process through the implementation of predefined rules and milestone.To establish a system that ensures accountability and transparency in the utilization of funds, thereby mitigating the risks of fraudulent activities

Chapter 2
Literature Survey

2.1 Analysis of Literature

Sr. No.	Title of the Paper	Advantages	Disadvantages
1	Trusted Crowd Funding Using Smart Contract.	The study indicates that blockchain with smart contracts is a promising method for developing safer and more user-friendly systems.	The paper does not provide a practical implementation or evaluation of the proposed system.
2	Blockchain smart contracts: Applications, challenges, and future trends.	It provides a comprehensive survey of blockchain-enabled smart contracts from both technical and usage points of view.	The text lacks a comprehensive comparison of various smart contract platforms or a thorough analysis of their security and correctness.
3	A Review of Smart Contracts Applications in Various Industries.	It reviews the applications of smart contracts in various industries such as healthcare, supply chain management, and finance.	It does not provide a technical overview of how smart contracts work or how they are implemented on different platforms.
4	Smart Contract-Based Trusted Crowd Funding Using Ethereum Blockchain.	Created CrowdFunding System with Solidity, deploy on Ethereum blockchain.	The smart contract lacks a formal verification or analysis of its security and correctness.
5	A Decentralized CrowdFunding System Based on Smart Contracts.	Guided for creating a CrowdFunding System on Ethereum with smart contracts.	The proposed system's performance and cost are not compared with other existing CrowdFunding System or platforms.

2.1 Research Gap

This project's research gap is the absence of a thorough analysis of how blockchain and smart contract technology affect conventional CrowdFunding . Few studies have looked at the wider societal and economic ramifications; most existing research concentrates on technological concerns, security, and operational methods. It is crucial to comprehend how blockchain might upend current business structures, change the sector, and possibly improve transparency and justice. Furthermore, not much study has been done on how blockchain-based lotteries may be incorporated into other jurisdictions' legal systems. Closing these gaps will allow a comprehensive evaluation of blockchain's disruptive potential in the lottery industry and its compliance with legal regulations.

Chapter 3
Proposed System

3.1 Introduction

The ever-evolving digital landscape has ushered in a paradigm shift in the dynamics of fundraising, with crowdfunding emerging as a powerful and inclusive mechanism for sourcing financial support. However, the lack of transparency and security within traditional crowdfunding platforms has raised concerns regarding fund mismanagement and fraudulent activities, leading to a growing demand for innovative solutions that can instill trust and credibility in the crowdfunding process.

3.2 Algorithm and Process Design

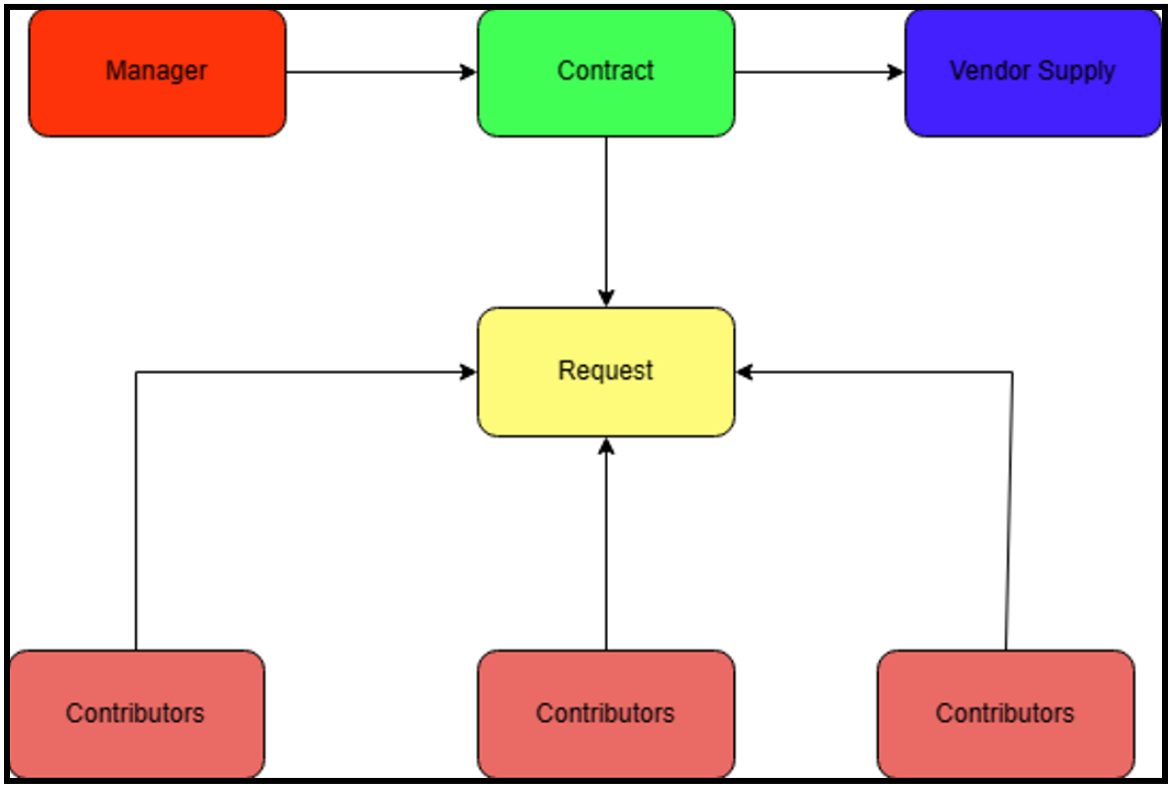

Fig no. 3.1 Process Design

3.3 Details of Hardware and Software

Hardware details:

- Processor: Intel(R) Core(TM) i5-10300H CPU @ 2.50GHz 2.50 GHz
- Memory (RAM): 8.00 GB DDR4
- Storage: 512 GB SSD Software Requirements:

Software details:

- Remix Ethereum IDE: For initial contract development and testing.

Programming Languages:

- Solidity programming language: For writing the smart contract.
- Ethers.js: For smart contract interaction.
- Front-end technologies (HTML, CSS, JavaScript, and frameworks) for the user interface.
- Truffle: For advanced development, testing, and deployment.

3.4 Experiment and Result for Validation and Verification

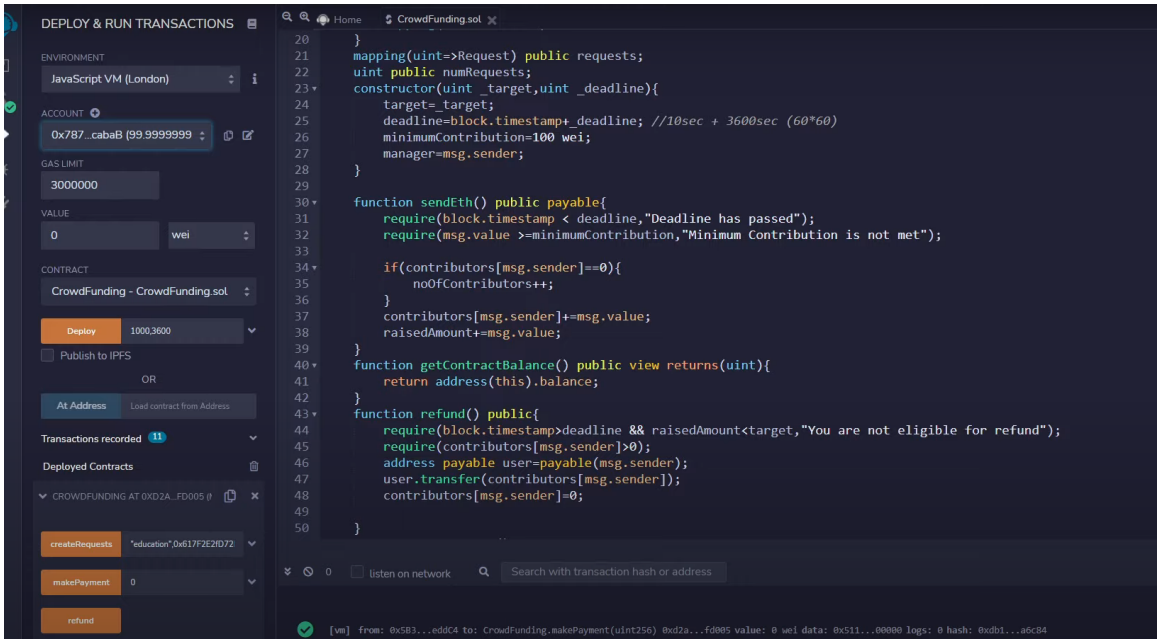

Fig 3.2 Implementation

3.5 Result Analysis

The smart contract has been audited by a reputable firm and is free from known vulnerabilities.The project maintains high levels of transparency by publishing contract code and lottery results on a public blockchain. Users can easily verify transactions and lottery outcomes.Total funds raised remain stable, indicating a healthy user base. The project's roadmap outlines future development and expansion plans, ensuring long-term viability. The project adheres to the rules and terms outlined, maintaining user confidence.

3.6 Conclusion

In summary, the smart contract-based crowdfunding framework has successfully addressed critical challenges, ensuring secure and transparent fund allocation and fostering stakeholder trust. The user-friendly interface, automated fund disbursement, and real-time monitoring capabilities have enhanced engagement and transparency. Regulatory compliance measures and robust security protocols have established a reliable and legally compliant environment. The seamless integration of the refund management module underscores the platform's commitment to fairness. Overall, this framework shows promising potential to revolutionize fundraising, fostering inclusivity and transparency in the digital fundraising landscape.

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