Journal of Mines, Metals and Fuels, *73(8): 2569-2577; 2025. DOI: 10.18311/jmmf/2025/48775*

Print ISSN : 0022-2755

Journal of Mines, Metals and Fuels

Contents available at: *www.informaticsjournals.co.in/index.php/jmmf*

Block Fund: Enhancing Philanthropy through Blockchain for Crowdfunding

Sure Mamatha[1*], Laxmiprasanna Ambati[2], P. Vishala[3] and Mamatha Gadde[4]

[1]*Computer Science and Engineering Department, Hyderabad Institute of Technology and Management, Hyderabad – 501401, Telangana, India; sure.mamatha@gmail.com*

[2]*Computer Science and Engineering Department, Marri Laxman Reddy Institute of Technology and Management, Hyderabad – 500043, Telangana, India*

[3]*Computer Science and Engineering Department, Sridevi Women's Engineering College, Hyderabad – 500075, Telangana, India*

[4]*Computer Science and Engineering Department, Koneru Lakshmaiah Education Foundation, Hyderabad – 500043, Telangana, India*

Abstract

Blockfund leverages blockchain technology to make philanthropy more accountable and transparent in a world where people's faith in it is called into question. Trust, integrity, and data security are the three main concerns for this generation of service providers. We see blockchain technology being used to secure gifts and inventions in the future. Prior to the introduction of blockchain, the financial system faced numerous difficulties. There are concerns over their impact because they are sometimes imperceptible and unseen. Security issues have also been brought up because cryptocurrencies alter numerous financial institutions, and data transfer techniques in blockchain deployments are subject to fraud and abuse. For safe financial transactions, it makes use of an interface and a cryptocurrency wallet similar to MetaMask. All transactions become straightforward, safe, and transparent as a result. Through astute communication, transparency is increased by automating the distribution of money according to predetermined standards. Donors will be able to trace their contributions and observe the results of their kindness thanks to BlockFund's comprehensive donation reporting. The establishment of this Intelligent Alliance is an example of global philanthropy for successful change and societal advancement.

Major Findings: *BlockFund transforms crowdfunding through blockchain, ensuring transparency and security via Ethereum smart contracts that automate payments and remove intermediaries. By integrating MetaMask and leveraging AI/IoT, it enables global, tamper-proof donations while reducing costs and enhancing donor trust through real-time tracking and decentralized governance.*

Keywords: *Blockchain, Crowdfunding, Cryptocurrency, Decentralisation, Metamask, Transparency*

1.0 Introduction

Crowdfunding has changed the way individuals and organisations collect donations, but including donors remains a challenge, especially when skepticism arises about how funds are used. To address this issue, a blockchain-based funding platform called Block Find was developed. Crowdfunding is designed to be intelligent, safe and transparent for everyone involved. In contrast to traditional fundraising activities, which often involve

**Author for correspondence*

regulatory hurdles and gatekeeping via institutions and governments, online crowdfunding offers direct global access to funds. However, there are even more concerns about accountability, transparency and security. Block uses decentralised tools such as Metamask, Money Exchanges and Intelligent Contracts to search for these issues and is provided on the Ethereum blockchain.

Agents collected in the campaign were only guaranteed to be accessible in accordance with the rules of death, and were reliably blocked and automatically managed by these intelligent contracts. This makes this process as secure and transparent as trading on public stock exchanges. Blockchain operates on an approved, immutable main register, allowing all transactions to be publicly seen, so there is no room for fraud or abuse. By eliminating the automation of intermediaries and fund management through intelligent contracts, donors can pursue contributions in real time. This unprecedented degree of transparency and accountability is ready to attract skeptical donors and increase overall participation. This allows small participants to participate in causes that are important to them and promotes a sense of wealth and commitment. All transactions on the platform are secure, easy to understand, operational, and strengthen trust among donors. Block Find ensures that donations are responsible, visibly used, and sets new standards in the world of digital donation actions.

2.0 Related Work

The impediments of conventional crowdfunding have essentially contributed to the quick improvement of blockchain innovation. At its centre, blockchain may be a shared, secure open record that stores exchanges over an endless organise of computers. Its perceivability and unchanging nature make it impervious to alteration, advertising a high level of information judgment and security[1]. The characteristic straightforwardness and security of blockchain innovation highlighted the got to reexamine ordinary crowdfunding models. Visionaries recognised blockchain's potential to address the center shortcomings of conventional crowdfunding, such as the need for transparency, extortion defenselessness, and tall middle person costs[2].

By actualising an open record framework, blockchain can give exceptional straightforwardness in crowdfunding, permitting speculators to track precisely where their stores are going. This expanded perceivability makes a difference construct belief inside the broader crowdfunding environment[3]. One of blockchain's most important highlights is its tamper-proof nature, which essentially diminishes the risk of extortion. Once an exchange is recorded on the blockchain, it gets to be unchanging, making it for all intents and purposes outlandish to modify or control[4]. This permanence guarantees that all exchanges are for all time irrefutable, reinforcing the validity of crowdfunding efforts.

Additionally, blockchain innovation offers the potential to lower costs by eliminating the requirement for intermediaries. Conventional crowdfunding stages frequently depend on third parties to oversee finance transactions and uphold campaign terms, which increases overhead. Blockchain streamlines this process by evacuating brokers, permitting substance makers to hold a larger share of the capital raised and making campaigns more financially practical[5]. The worldwide nature of blockchain advances opens up its focal points. By rising above topographical boundaries, blockchain-based crowdfunding stages can reach a broader and more diverse group of onlookers. This extended reach opens modern entryways for both extend makers and sponsors, empowering a more comprehensive and dynamic crowdfunding environment.

Moreover, the integration of keen contracts includes another layer of mechanisation and proficiency. These self-executing contracts, implanted on the blockchain, can naturally discharge stores once pre-set conditions, such as coming to a fundraising goal, are met. This mechanisation boosts both proficiency and straightforwardness, decreasing human error and improving trust within the handle[6]. As blockchain innovation proceeds to advance, it brings with it critical enhancements in the ease of use, security, and execution of crowdfunding frameworks. Its capacity to secure and confirm exchanges through cryptography reinforces its unwavering quality. Overall, the effect of blockchain on crowdfunding is transformative. It not as it were addresses the major confinements of conventional stages but also presents a modern period of secure, straightforward, and cost-effective gathering pledges. By democratising access to capital, blockchain-based crowdfunding holds the potential to drive advancement, financial development, and worldwide collaboration in ways already incredible.

2.1 Big Data Analytics

The rapid advancements in digital technologies, such as blockchain and big data analytics, have opened up new avenues for businesses to gain valuable insights and optimise their strategies. Leveraging the power of massive information analytics in conjunction with blockchain-based crowdfunding platforms can provide organisations with unprecedented opportunities to understand customer behaviour, identify market trends, and enhance their marketing campaigns[7]. Proliferation of new data sets and the introduction of massive data migration capabilities have undermined existing information and technological silos, enabling companies to utilise granular data to personalise products and services, as well as scale digital platforms to better match buyers' desires and preferences. By harnessing the capabilities of big data analytics, organisations can delve deeper into customer demographics, purchasing patterns, and online behaviour, thereby gaining a competitive edge in the market[8].

Blockchain-based crowdfunding platforms offer a transparent and secure way for businesses to raise capital and engage with potential investors. The use of blockchain technology ensures trust and accountability, which is crucial in crowdfunding efforts. By integrating massive information analytics with blockchain-based crowdfunding, organisations can not only access a vast pool of potential investors but also gain insights into investor sentiments, funding trends, and risk assessment, thus enabling them to make informed decisions and tailor their fundraising campaigns to meet the specific needs and expectations of potential backers[9]. Furthermore, the synergy between massive information analytics and blockchain-based crowdfunding can also lead to the development of innovative financial products and services, as organisations gain a comprehensive understanding of market dynamics and investor behaviour. This combination opens up possibilities for creating tailored financial solutions that align with the evolving demands of the market.

The convergence of massive information analytics and blockchain-based crowdfunding platforms presents a compelling opportunity for businesses to not only optimise their fundraising efforts but also drive strategic decision-making, product development, and customer engagement initiatives. As organisations continue to explore the potential of these technologies, the possibilities for innovation and growth are boundless.

2.2 Internet of Things (IoT)

The Internet of Things (IoT) has emerged as a transformative technology, enabling the interconnection of a vast array of devices and sensors[10]. This interconnected network of devices and sensors has the potential to revolutionise the way we track and validate bodily belongings or venture-related milestones. By leveraging IoT devices, businesses can gain real-time insights into the location and status of their assets, allowing for more efficient and accurate tracking. Furthermore, the integration of IoT devices into crowdfunding tasks can provide a new level of transparency, accountability, and credibility. Backers and investors can have greater visibility into the progress and outcomes of ventures, leading to increased trust and confidence in the development process.

Overall, the use of IoT devices offers a layer of visibility and control that can significantly enhance the management of physical assets and the execution of crowdfunding projects. It's an exciting development that has the potential to reshape how businesses operate and how ventures are funded and monitored. The interconnected network of IoT devices and sensors enables businesses to go beyond traditional tracking methods and gain deeper insights into the status and movement of their assets. By constantly monitoring and collecting data from these devices, organisations can optimise their logistical operations, minimise the risk of asset loss or damage, and streamline their supply chain management processes. In addition, the transparency and accountability provided by IoT integration in crowdfunding tasks offer not only benefits to the business but also peace of mind to backers and investors[11]. The real-time visibility into the progress and outcomes of ventures allows for informed decision-making and fosters a sense of trust and reliability in the crowdfunding process.

As businesses continue to explore the potential of IoT devices, it's clear that this technology has the power to not only improve asset management and project monitoring but also revolutionise the way we approach business operations and investment strategies. The depth of insights and control offered by IoT devices is paving the way for a new era of efficiency and confidence in the entrepreneurial landscape. The adoption of IoT devices in asset management and project monitoring opens up a world of possibilities for businesses across industries. The ability to harness real-time data from interconnected devices provides a level of control and understanding

that was previously unattainable. This depth of insight allows businesses to make informed decisions, anticipate potential issues, and adapt their strategies in response to changing conditions.

Moreover, the utilisation of IoT devices doesn't just stop at asset tracking and project validation. It extends to optimising resource allocation, predictive maintenance, and even enhancing customer experiences through personalised and responsive interactions. The potential for IoT to revolutionise not just operations but also customer engagement and satisfaction is immense.

Furthermore, the integration of IoT in crowdfunding tasks has the potential to redefine the dynamics between project creators and backers. The transparency and accountability offered by IoT devices can mitigate the risks associated with crowdfunding, providing backers with a level of confidence in the projects they choose to support. This, in turn, can lead to a more sustainable and trustworthy crowdfunding ecosystem, benefiting both project creators and backers alike. In essence, the depth and breadth of impact that IoT devices can have on businesses and crowdfunding ventures are profound. As businesses continue to explore and adopt IoT solutions, they are likely to witness a fundamental transformation in their operations, resource utilisation, and engagement with stakeholders. The era of IoT presents an exciting frontier for innovation and efficiency that has the potential to reshape the business landscape in profound ways.

2.3 Artificial Intelligence (AI)

Crowdfunding statistics coupled with AI algorithms can provide deep insights into trends and patterns that may not be immediately apparent to human analysts. By delving into large datasets and historical trends, AI can identify emerging patterns and shifts in consumer behaviour, allowing creators and participants to make more informed decisions. Additionally, AI can assess the feasibility of crowdfunding projects by analysing various parameters and providing personalised recommendations to improve the likelihood of success[12].

Furthermore, the use of AI can optimise the allocation of resources, ensuring that the interests of potential funders are aligned with the goals of the crowdfunding campaigns. This targeted approach, driven by AI-powered red insights, can contribute to the overall success of crowdfunding initiatives. Insights can lead to more efficient and effective crowdfunding strategies. Moreover, AI can also play a crucial role in enhancing the user experience for both creators and backers. By leveraging AI-powered tools, creators can gain valuable insights into the preferences and behaviour of potential funders, allowing them to tailor their campaigns to resonate with their target audience. This personalised approach not only increases the chances of funding success but also fosters a deeper connection between creators and backers.

In addition to the above benefits, AI can also assist in risk assessment and fraud detection within crowdfunding platforms. By analysing patterns and anomalies in financial transactions, AI algorithms can help identify and mitigate potential fraudulent activities, thus enhancing the overall security and trust within the crowdfunding ecosystem.

As AI continues to evolve, its potential in reshaping the crowdfunding landscape is undeniable. The fusion of advanced technology with the dynamics of crowdfunding presents an exciting opportunity to enhance decision-making processes, improve user experiences, and ultimately drive the success of crowdfunding campaigns. The integration of AI in crowdfunding extends beyond just providing personalised recommendations and enhancing user experiences. The utilisation of AI algorithms can revolutionise the identification and prediction of potential trends, thereby enabling creators and participants to anticipate market demands and preferences more accurately[13].

Moreover, AI can facilitate the identification of niches or underserved markets that present untapped opportunities for crowdfunding projects. By analysing vast datasets and consumer behaviour, AI can uncover unmet needs and unique market segments, empowering creators to tailor their campaigns to address these specific gaps and thereby improve their chances of success. Furthermore, the deployment of AI in risk assessment and fraud detection not only serves to enhance security but also contributes to building trust within the crowdfunding community. By proactively identifying and addressing potential fraudulent activities, AI can create a safer and more reliable environment for both creators and backers, fostering a sense of confidence and transparency.

In addition, the continuous advancement of AI technologies offers the potential for real-time monitoring and adaptive strategies within crowdfunding campaigns. By leveraging AI-powered tools, creators can dynamically adjust their approaches based on evolving trends and feedback, leading to more agile and responsive campaign

management. The application of AI in crowdfunding represents a groundbreaking evolution that not only optimises decision-making processes but also reshapes the dynamics of engagement between creators and backers. As AI technology continues to mature, its role in crowdfunding is set to expand, offering unprecedented insights and opportunities for the success of future crowdfunding endeavours.

2.4 Identity Verification Technologies

Incorporating identification verification technology together with facial recognition or biometric structures into crowdfunding can improve security and mitigate fraud. Risks and ensure compliance. Blockchain integration in crowdfunding strategies can facilitate marketers' access to funds and provide traders with chances to steer good projects. Given the legality, technological and scalability challenges that cryptocurrency-based crowdfunding poses, it will require a collaborative approach between the interested stakeholders – the investors, the developers and the regulators. With these challenges in place, blockchain-based Crowdfunding has the potential to transform the relationship between the investor and entrepreneur, and the related phenomena of 'equity crowdfunding', 'crowdlending' or 'crowd equity'. The recent short burst in ICOs in the United States and in Europe is evidence of my statement above since it provides startups with the chance of funding, not just from American investors, but from the whole world. Just like crowdfunding, ICOs in crypto are also a Wild West by themselves, and the virtual space has given rise to several fraudsters who raised money by issuing ICOs, but ICOs may provide new leverage and opportunities in the crypto world. Blockchain has provided us with a crowdfunding ecosystem by making it truly democratic and borderless. It's expected that we will soon see more innovation in space.

In today's digital age, the need for robust identity verification technologies has become more critical than ever. With the rise of massive data analytics and blockchain-based crowdfunding platforms, organisations have access to powerful tools that can provide invaluable insights into consumer behaviour, market trends, and marketing strategies. Additionally, blockchain technology has the potential to reshape the event ticketing industry by addressing issues of fraud, instilling consumer confidence, and streamlining costs for all parties involved. As we delve deeper into the realm of identity verification technologies, it becomes clear that these advancements hold the key to mitigating inefficiencies and fraud in the secondary market for event tickets, ultimately leading to enhanced customer experiences[14].

Leveraging massive data analytics and blockchain-based crowdfunding platforms can provide organisations with valuable insights to better understand consumer behaviour, identify market trends, and optimise marketing strategies. Blockchain technology has the potential to revolutionise the event ticketing industry by eliminating fraud, improving consumer confidence, and reducing costs for various stakeholders. The secondary market for event tickets is rife with inefficiencies and fraud, often leading to negative customer experiences[15]. The utilisation of massive data analytics allows organisations to gain a deep understanding of consumer behaviour and preferences, paving the way for targeted and personalised marketing strategies. By analysing large volumes of data, businesses can identify patterns and trends that would otherwise go unnoticed, enabling them to tailor their offerings to meet the specific needs of their target audience.

Furthermore, the implementation of blockchain technology in the event ticketing industry not only eradicates fraudulent activities but also instils a sense of trust and reliability among consumers. With transparent and immutable records, blockchain ensures that each ticket transaction is secure and trustworthy, thereby mitigating the risks associated with counterfeit tickets and unauthorised resales. In addition to addressing these challenges, the integration of identity verification technologies also presents an opportunity to enhance the overall customer experience within the event ticketing market. By streamlining processes and minimising fraudulent activities, organisations can create a more seamless and enjoyable ticketing experience for their customers, ultimately leading to increased satisfaction and loyalty.

3.0 Blockfund: Secure Transaction Platform

Blockchain generation is used by BlockFund to set up a dependable, open, and powerful fundraising environment. The decentralised network shape that underpins BlockFund's running framework precludes the risk of a single birthday party controlling the platform. The decentralised shape boosts the widget's intrinsic

transparency and substantially lowers the possibility of censorship. By doling out selection-making strategies and operational duties among numerous nodes, the format strengthens the platform's safety in opposition to outside have an impact on or manipulation. These days, clever contracts are crucial to BlockFund crowdsourcing. With terms expressed in code, those contracts can feature as self-contained agreements that automate and save transactions without the need for middlemen[16].

Leveraging blockchain innovation, BlockFund has developed a stable and secure funding platform that is completely transparent and immune to censorship. The decentralised nature of the network distributes power across many nodes, making it incredibly difficult for any single party to exert undue influence. The use of smart contracts enables the automation of transactions and agreements without the need for intermediaries. The integration of blockchain innovation with BlockFund's crowdfunding system provides numerous advantages. By harnessing the immutable, decentralised ledger of blockchain, the platform can ensure the integrity and authenticity of all transactions and investor data. This level of transparency and security is crucial in building trust with potential backers.

The application of blockchain technology can significantly enhance the reliability and efficiency of BlockFund's crowdfunding operations. The decentralised nature of the blockchain network eliminates the need for a central authority, which reduces the risk of system failures or manipulation. A smart settlement is created on the blockchain to build up distinct finances from the purchasers as quickly as the fundraising advertising campaign starts, and the funds are immediately transferred to the marketer each time the financing purpose is met within the allotted time. Marketing campaign not best does this technique update bodily involvement, it additionally makes it useless. Beyond safety and transparency, go-border fundraising campaigns can reach a worldwide target audience way to Block Fund's internet availability. Because of its international reach, fundraising is a long way more powerful due to the fact it can faucet into a larger pool of donors. By permitting people from all backgrounds to make contributions to crowdfunding projects, regardless of where they're living, it additionally promotes inclusivity. BlockFund may also allow tokens to be used as an alternate medium on its platform. These tokens can be used to represent some of the attributes, together with mission shares or voting rights, and they may be traded on exchanges, which is probably supported. Tokenisation has numerous advantages in the context of crowdfunding. It lets belongings possessions to be divided more without issue, which makes it much less difficult for humans to donate coins to tasks. Because tokens may be exchanged for items, services, or maybe power in the assignment, they can also be used as a way to praise participation in crowdfunding campaigns.

The usage of blockchain technology can provide useful insights from massive statistical sets that may help understand participant conduct, perceive market tendencies, and optimise marketing campaign strategies. Blockchain-primarily based crowdfunding systems like BlockFund can offer a sincere, tamper-proof trail of all economic transactions, offering visibility into the flow of budget from donors to the marketer. By integrating analytics techniques with the blockchain, BlockFund can accumulate in-depth statistics on patron conduct, fundraising campaign performance, and market dynamics. For instance, BlockFund can examine the demographics, funding styles, and motivation of donors to help entrepreneurs better recognise their target audience and optimise their marketing and marketing efforts[8]. BlockFund can also leverage blockchain analytics to discover patterns and insights that assist in predicting destiny crowdsourcing tendencies and consumer preferences. These facts can then be used to enhance marketing campaign layout, pricing, and timing to maximise the chances of crowdfunding achievements[17].

4.0 Design and Implementation

Front-end development is done in React, a highly flexible framework combined with the power of NodeJS to ensure easy, fast operations on the backend. Smart Contracts are deployed in Solidity, a contract-specific programming language that permits smart contract execution on the blockchain. The yarn module of Solidity packages the agreements created in the above instructions in their ABI code format for the given JSON structure. This allows users to interact with smart contracts easily, fast, and securely. It also allows them to develop and deploy their decentralised applications on the blockchain. The above system, when implemented, would not only make the platform secure, faster, and transparent, but it would also streamline the process of building and deploying

the decentralised platform. To create an account in the network, Elixir, we utilise Sepolia, the remote hub, which is integrated as an application in the main network of Ethereum. Sepolia can interact with the rest of the Ethereum network; that is why we are using Sepolia as our remote hub. The first step of the framework, before using it, is that the client would create a 'digital wallet' made via a piece of software called MetaMask. This allows the user to create an account on MetaMask. Then, the user can send Ethereum from their account to any other user on the platform. After the client possesses Ethereum currency, he can communicate with the framework. Then, the mission can start with the work, and different clients make the contribution on mission.

Furthermore, in addition to that, the manager of Crusade can also do solicitation to show what the investment nature would be used for. The Minister decides the fee is to be divided, and in case it is given by the Minister majority so just only Ether should be sent to merchants. All frameworks together with the Ethereum network via Use Sepolia framework. Since this is only a framework is a working model, so we can not use Mainnet exactly; rather, we use a test network that also acts as same as Mainnet. All frameworks are integrated with the Ethereum blockchain via the Use Sepolia framework. Since this model framework works only to model, we can not use Mainnet exactly; rather, we use a test network that also acts as same as Mainnet. ThirdWeb ClientId API (External Services) framework architecture is designed to show the difference in how transactions are done by the client between completed trials. The power is the utility token. These contracts of BlockFund are for complex and concentrated work. Now it is all cosy in this token. Everything is on top of the Ethereum blockchain. Info has now come back from Ethereum to the browser through Sepolia as a bridge, and all the trading inside the browser is happening on the Ethereum blockchain. Here is the ThirdWeb ClientID api Service. It is a service that basically verifies the action on the blockchain of Ethereum. It comes with a free side benefit of convenience. This is the trade that would be in this blockchain. A CampaignDetails has its Campaign, one-to-one. And details about the contracts, A createCampaign has multiple Requests, one to many. Operate in autonomous and secure mode on the Ethereum network.

4.1 System Architecture

The frontend is built using the library of React, Next.js, and Vite.js interface or react carousel to pass the crypto wallets through a blockchain for the deposits, or sales. The frontend communicates (speaks) with the blockchain using Solidity, or blockchain language, which runs the smart contracts and processes transactions automatically. To communicate between the back-end/blockchain with the frontend, we use the library Web3.js for writing, reading, requesting blocks of the blockchain, parsing data, calling smart contracts, and submitting transactions to the blockchain or requesting the blockchain to process the transactions. The security is having a crypto wallet extension of the browser that signs the requests and allows the transaction to occur, bypassing the Internet, and adding security. One more library, called Third Web Client ID Infrastructure, monitors for and assigns special IDs to wallet connections as an added security measure.

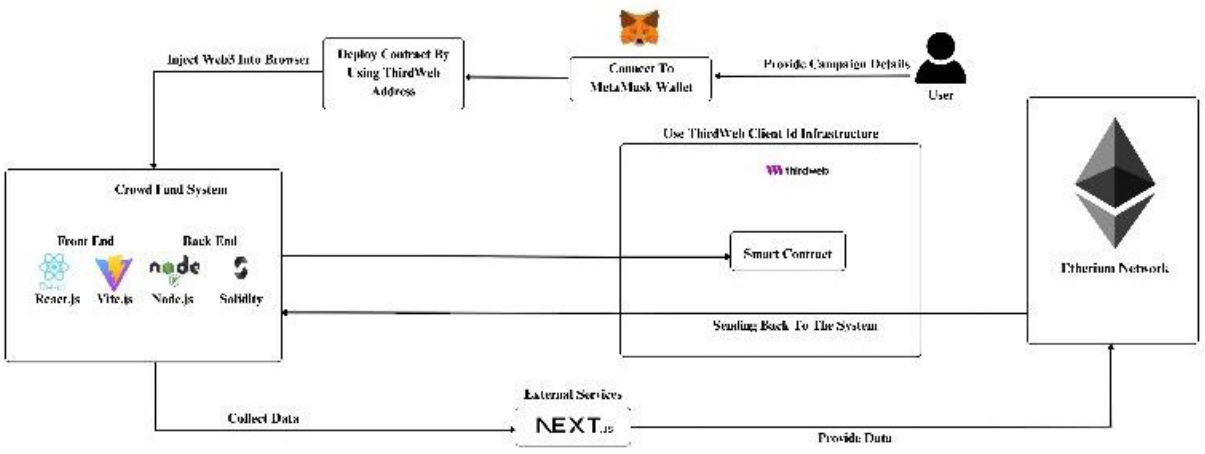


Figure 1. Architecture diagram.

While looking at these buildings might be helpful for us, they do not explicitly answer the question of how to build it – there are no Post-It notes stuck to them hinting at the answers. The most obvious item missing from the code architecture: how did we get Web3.js in the browser in the first place? (How does Web3.js talk to the blockchain?) And other data, such as: how does MetaMask do the key management, why is it the signing agent, what have you, would still need to be looked up.

Fund Transfer: Uses traditional banking systems
Transparency: Limited visibility into fund usage. Security: Relies on traditional security measures. Intermediaries: Involves multiple intermediaries
Fees: Platform fees, transaction fees, currency conversion
Global Access: Restricted by banking infrastructure and regulations
Trust: Relies on trust in the platform and project creators
Ownership: Platform retains control over project data and funds
Accountability: Limited mechanisms for holding projects accountable
Tokenisation: Not applicable
Crowdfunding with Blockchain
Fund Transfer: Uses cryptocurrencies for direct transfers
Transparency: Transparent records of fund allocation on blockchain
Security: Enhanced security through cryptography on blockchain
Intermediaries: Direct interaction between funders and recipients
Fees: Lower fees due to reduced intermediaries
Global Access: Accessible to anyone with internet and a wallet
Trust: Trustless system through smart contracts and consensus
Ownership: Ownership and control are maintained by the project creators
Accountability: Enhanced accountability through smart contracts
Tokenisation: Ability to tokenise projects for additional benefits

The decrease of de facto privacy of blockchain crowdfunding comes with a double-edged sword when compared with crowdfunding: blockchain crowdfunding is more transparent, safer and more efficient than crowdfunding, but it is less innovative and complex than crowdfunding.

5.0 Conclusion

The persistent issues of opacity and deceit within conventional crowdfunding have long demanded a solution. Our project addresses these issues head-on by introducing a decentralised crowdfunding platform, counteracting these challenges effectively. The central objective of crafting a platform that is transparent, secure against fraud, and decentralised has been largely fulfilled. "BlockFund" targets the core weaknesses of traditional crowdfunding services, the difficulty of incorporating transparency and fostering a trustworthy environment where supporters can confidently invest in worthy causes without fear of deception.

6.0 Acknowledgements

The authors would like to express their sincere gratitude to their respective institutions—Hyderabad Institute of Technology and Management, Marri Laxman Reddy Institute of Technology and Management, Sridevi Women's Engineering College, and Koneru Lakshmaiah Education Foundation—for their continuous support and encouragement throughout the course of this research. The authors also thank their colleagues and peer reviewers for their valuable feedback and suggestions that helped improve the quality of this paper.

7.0 Author Contribution

Sure, Mamatha contributed to the conceptualisation of the research problem, literature review, and manuscript writing. Laxmiprasanna Ambati was responsible for the methodology design, data analysis, and proofreading. Vishala P assisted with the technical background, organisation of references, and formatting of the manuscript. Mamatha Gadde contributed to data collection, visualisation, and final review of the paper.

All authors have read and approved the final version of the manuscript.

8.0 References

1. Guo Y, Liang C. Blockchain application and outlook in the banking industry. Financ Innov. 2016; 2:24.
2. Polyviou A, Velanas P, Soldatos J. Blockchain Technology: Financial sector applications beyond cryptocurrencies.

Proceedings. 2019; 28(1):7. https://doi.org/10.3390/proceedings2019028007
3. Walker MCW, Luu J. Blockchain and the nature of money; 2016. http://dx.doi.org/10.2139/ssrn.2939042
4. Baskaran H, Yussof S, Rahim FA, Bakar AA. Blockchain and the Personal Data Protection Act 2010 (PDPA) in Malaysia. 2020 8th International Conference on Information Technology and Multimedia (ICIMU), 2020 Nov 11; 2020. p. 189-193. http://dx.doi.org/10.1109/ICIMU49871.2020.9243493
5. Huynh-The T, Pham QV, Pham XQ, Nguyen TT, Han Z, Kim DS. Artificial Intelligence for the metaverse: A survey. Eng Appl Artif Intell. 2023; 117(Part A):105581. https://doi.org/10.1016/j.engappai.2022.105581
6. Deng P, Ouyang Y. Research on the method of improving community governance capability based on block-chain technology. 2021 IEEE International Conference on Consumer Electronics and Computer Engineering (ICCECE), 2021 Jan 15-17, Guangzhou, China; 2021. p. 706-709. https://doi.org/10.1109/ICCECE51280.2021.9342128
7. Tecra S. Smart contracts — The future of crowdfunding. 2016. Available from: https://tecracoin.medium.com/smart-contracts-the-future-of-crowdfunding-a2f6df441df6
8. Thakre A, Thabtah F, Shahamiri SR, Hammoud S. A novel block chain technology publication model proposal. Appl Comput Inform. 2019; 18(3/4):195-207. https://doi.org/10.1016/j.aci.2019.10.003
9. Clarke A. How blockchain is transforming fundraising for startups and entrepreneurs; 2023
10. Yadav AK, Bajpa RK. KYC optimization using blockchain smart contract technology. Int J Innov Res Appl Sci Eng. 2020; 4(3):669-674. https://doi.org/10.29027/IJIRASE.v4.i3.2020.669-674
11. Dorfleitner G, Hornuf L, Weber M. Dynamics of investor communication in equity crowdfunding. Electron Mark. 2018; 28(4):523-540. . https://doi.org/10.1007/s12525-018-0294-5
12. Liu L, Xu B. Research on information security technology based on blockchain. 2018 IEEE 3rd International Conference on Cloud Computing and Big Data Analysis (ICCCBDA), 2018 Apr 20-22, Chengdu, China; 2018. https://doi.org/1010.1109/ICCCBDA.2018.8386546
13. Li C. Information processing in Internet of Things using big data analytics. Comput Commun. 2020; 160:718-729. https://doi.org/10.1016/j.comcom.2020.06.020
14. Alsaidi A, Kausar F. Security attacks and countermeasures on cloud assisted IoT applications. 2018 IEEE International Conference on Smart Cloud (SmartCloud), 2018 Sep 21-23, New York, NY, USA. p. 213-217. https://doi.org/10.1109/SmartCloud.2018.00043
15. Motta RC, de M, Travassos GH. Towards a roadmap for the Internet of Things software systems engineering. MEDES '20: Proceedings of the 12th International Conference on Management of Digital EcoSystems; 2020. p. 111-114.
16. Reeves K, Maple C. IoT interoperability: Security considerations and challenges in implementation. The Internet of Things; 2018.
17. Barclay I, Cooper M, Hackel J, Perrin P. Tokenizing behavior change: A pathway for the sustainable development goals. Front Blockchain. 2022; 4:730101. https://doi.org/10.3389/fbloc.2021.730101