

Fund Campaigns Platform: New Age Era of Reward-based Crowdfunding using Blockchain Technology

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Abstract—There is a rising need for open and welcoming charity in this technology age. An innovative Decentralized Fundraising Platform is the subject of this article; it aims to create a space where fundraising efforts for different causes can be open, visible to everyone, and protected from fraud. Fifty users and organizers from the platform were randomly selected to participate in this study, which used a quantitative research approach. Everyone thinks the platform is great because of how well it communicates, how easy it is to use, and how functional it is. Most users had good experiences, and the platform is known for its security and anti-fraud measures, thus it has a good reputation overall. The endorsement of this technology stack further demonstrates the platform's strength in this area. Taken together, these results prove that the Fund Campaign Platform reached its intended demographic, which bodes well for the platform's future popularity among fundraisers and event planners.

Index Terms— Decentralized Fundraising Platform, Transparent philanthropy, Blockchain Technology.

I. INTRODUCTION

In an era marked by technological advancements and a growing need for transparent and inclusive philanthropy, the emergence of decentralized fundraising platforms has reshaped the landscape of charitable contributions [1]. This paper delves into the intricacies of a groundbreaking initiative – a Decentralized Fundraising Platform designed to provide a transparent, anti-fraudulent, and visible-to all environment for fundraising campaigns dedicated to various causes. As we navigate the digital age, where philanthropy meets technology, understanding the effectiveness and nuances of such platforms becomes imperative [2]. Giving is only part of philanthropy; what really matters is creating a space where people feel comfortable enough to get involved, where they can trust one another, and where they can form real relationships with the organizations they support [3]. This platform does more than just make it easier to raise money for different causes; it also changes the way people think about and approach charitable giving. Opacity in financial transactions, vulnerability to fraud, and limited accessibility are some of the long-standing issues with traditional fundraising tactics that it aims to tackle by adopting decentralization. Key to the platform's success is its commitment to transparency and inclusivity [4]. Users are not only empowered to contribute to multiple live campaigns but are also provided with real-time updates, creating an unprecedented level of engagement between donors and the causes they support [5]. The introduction of two-way security measures not only ensures the integrity of the platform but also cultivates a sense of trust among contributors, crucial for the sustained success of any fundraising endeavour [5]. To what

extent has the Decentralized Fundraising Platform been successful in accomplishing its goals is the overarching goal of this article. The study aims to provide significant insights to the ever-changing world of digital philanthropy by studying user experiences and satisfaction levels, comparing its unique characteristics with traditional fundraising platforms, and evaluating the problems encountered during implementation. Integrating blockchain technology stands out as a security and accountability beacon as we begin this study of innovation in fundraising. The paper will explain how this technology changes the way charitable organizations conduct financial transactions by safely keeping donated funds on the blockchain.

II. LITERATURE SURVEY

The studies by Salido-Andres (2018), Salido Andrés et al. (2019) and Salido-Andres (2018) both delve into the factors influencing the success of donation-based crowdfunding (DCF) campaigns, particularly through digital platforms. Salido-Andres, N. (2018)¹⁵ analyzed the new social marketing strategies challenging the traditional behaviour of non-profit sector organizations, through the promotion of Donation-based Crowdfunding (DCF) campaigns via digital platforms. Chapter 1 presented the findings of a bibliometric and systematic literature evaluation that mapped DCF for philanthropic causes. Individual antecedents and technology enablers play a central role in this emerging area of study, which was mostly advanced through empirical and quantitative research. We offer a unified theoretical framework that lays out the major causes and effects of DCF and how they relate to one another. The explanatory power of factors impacting the efficacy of DCF initiatives promoted using digital channels was examined in Chapters 2 and 3. Specifically, of the campaign elements (3) and of those that have historically explained the success of offline fundraising efforts for good causes (2). A database of 360 projects that were supported between 2012 and 2017 was utilized for quantitative research. The results showed that factors connected to the campaign's geographical breadth, the number of possible beneficiaries, the information provided by the promoting organizations, and the campaign's spreadability had a strong explanatory capacity.

Crowdfunding markets are online platforms that have changed the way people raise money. Similarly, SalidoAndres, N., Rey-Garcia, M., Alvarez-Gonzalez, L. I., & Vazquez-Casielles, R. [18] aimed to explore the extent to which the volume of target beneficiaries - explaining the success of offline fundraising campaigns for charitable causes - may influence as well the success of donation-based crowdfunding (DCF) campaigns promoted through digital platforms. To start, we looked at what's already been written on how the number of possible recipients affects the effectiveness of traditional offline fundraising drives. The second step was to postulate a relationship between DCF campaigns and the factors mentioned in the literature. The third step was to quantify their explanatory capacity using a database of 360 campaigns that were supported by nonprofits through Microdonaciones, a digital platform for donation-based crowdfunding, from 2012 to 2017. The hypotheses were tested using logistic regression analysis. In terms of the number of potential beneficiaries meant to be helped, the results showed that donation-based crowdfunding campaigns for charitable causes promoted through digital platforms, even when successful, tend to be tiny. Again, Salido Andrés, N., Rey García, M., Álvarez González, L. I., & VázquezCasielles, R. [10] aimed to explore the extent to which factors traditionally explaining the success of offline fundraising campaigns for social causes may also influence the success of donation-based crowdfunding (DCF) campaigns promoted by social economy organizations (SEO) through digital platforms. To start, we combed through the literature to find the elements that make offline fundraising campaigns for social causes successful. Second, we postulated a series of relationships between these factors and DCF campaigns. Microdonaciones is a digital platform that facilitates donation-based crowdfunding. From 2012 to 2017, 360 campaigns were supported by small, medium, and large-sized organizations. The next step was to quantify their explanatory capacity. The hypotheses were tested using logistic regression analysis. In both instances, the results showed that factors connected to the campaign's geographical breadth, the number of potential beneficiaries involved (in an unanticipated fashion), and the information provided by the promoting organizations had a strong explanatory power. The popularity of the campaigns was unaffected, nevertheless, by events surrounding their launch dates. Both the methods and sources of money, as well as the very character of fundraising campaigns, have allegedly undergone a digital metamorphosis, according to this study. In order to achieve sustainable growth, SEO was able to develop successful partnerships with new digital donors thanks to the implications of this research. These studies highlight the significance of campaign geographical breadth, beneficiary numbers, and information dissemination by promoting organizations in determining campaign success. These findings underscore the evolving nature of fundraising campaigns in the digital era and emphasize the importance of partnerships with new digital donors for sustainable growth.

III. PROPOSED SYSTEM

The Decentralized Fundraising Platform is a cutting-edge initiative designed to revolutionize the landscape of fundraising campaigns [7]. This platform stands out for its commitment to transparency, anti-fraud measures, and inclusivity. Following is the detailed description based on the key features and technologies utilized:

- **Transparent and Inclusive Fundraising:** The platform serves as a decentralized hub for fundraising campaigns, aiming to foster transparency and inclusivity. It provides a visible-to-all environment where users can access comprehensive details about ongoing campaigns, ensuring openness and clarity in the fundraising process [9].
- **Contribution Flexibility:** One of the standout features is the flexibility it offers to users. Contributors have the ability to participate in multiple live campaigns concurrently. This adaptability empowers users to support various causes simultaneously, reflecting the diverse interests and concerns within the community [8].
- **Real-Time Campaign Details:** Users benefit from real-time updates on campaign progress and details. This feature ensures that contributors are kept informed about the impact of their contributions, fostering a sense of engagement and connection with the causes they support [8].
- **Technological Stack:** The platform is built using a sophisticated technological stack, including Solidity for smart contract development, Ganache-CLI for Ethereum-blockchain testing, NextJS and ReactJS for the frontend development, HTML and JavaScript for web development, and Metamask for secure interaction with the Ethereum-blockchain [8].

As a result, the Decentralized Fundraising Platform is an innovative approach to fundraising that brings together openness, safety, and ease of use to build a vibrant and welcoming environment for many causes. Using a strong technology stack and integrating blockchain technologies further enhance the platform's capabilities and reliability.

A. Activity Diagrams

Following diagrams illustrate comprehensive flowcharts for managing crowdfunding campaigns and facilitating user contributions on the proposed Ethereum blockchain-based platform. These flowcharts outline the processes and interactions between different user roles, utilizing smart contracts to ensure secure and transparent transactions:

The below given diagram illustrates the user experience for contributors on the crowdfunding platform. Both new and existing users must undergo a verification process to ensure the legitimacy of their accounts before accessing the user interface. Once logged in, users can browse all available campaigns on the platform and make contributions directly through the interface. The platform features an additional support system that allows contributors to connect with campaign managers, facilitating communication and collaboration. A dedicated dashboard provides detailed information and updates about the campaigns to which contributors have donated. Contributors can check campaign progress and view specific details.

When a user decides to support a campaign, their contribution is recorded and associated with the respective campaign through a smart contract. This ensures transparency and accurate tracking of contributions, leveraging the immutable nature of the Ethereum blockchain. Campaign managers play a crucial role in approving purchase requests made by contributors, and once approved, updates are fetched and displayed on the contributor's dashboard, keeping them informed about the campaign's status.

The below diagram focuses on the campaign management aspect of the platform, detailing the onboarding process for new users who must sign up and undergo thorough verification to become authorized campaign managers. Verified managers can access the manager interface, the central hub for their operations. Here, they can create new crowdfunding campaigns by providing necessary details and requesting funds, which are processed by a smart contract known as the "campaign factory" on the Ethereum network. Campaign managers can also manage existing campaigns, requesting updates and viewing details in real-time via the manager interface, ensuring transparency. A critical function of this interface is creating purchase requests for transferring funds to vendors or service providers. These requests require approval from a specified percentage of contributors (e.g., more than 50%) before finalization. Once approved, the smart contract executes the fund transfer.

Overall, the diagram depicts a comprehensive ecosystem for managing crowdfunding campaigns and facilitating contributions on an Ethereum-based platform. The strategic use of smart contracts ensures secure and transparent transactions, while verification processes uphold platform integrity by validating users and contributors. The

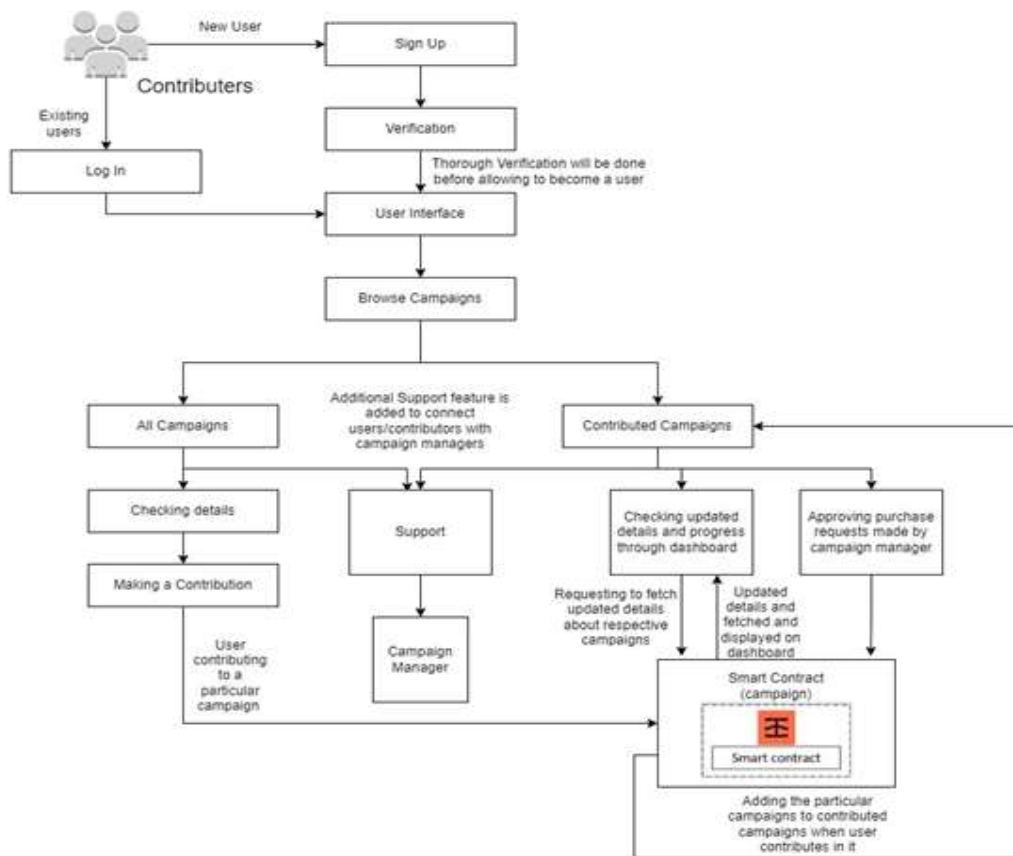


Figure 1. Activity Diagram depicting User Interface

integration of blockchain technology and the clear separation of roles create a robust and trustworthy crowdfunding environment.

IV. RESULTS AND DISCUSSION

When looking at the numbers, it's clear that many people think the site is great in luring in new donations. The total percentage of people who agree is 72.0%, including 32.0% who strongly agree and 40.0% who are indifferent. Accordingly, it appears that the vast majority agrees that the platform successfully attracts prospective donors. While 14% of the population agrees or strongly agrees, that number is far lower when expressed cumulatively. This represents a small but vocal group's opinion that the platform is not successful in drawing in prospective funders. Respondents who do not strongly endorse or oppose the platform's capacity to attract donations make up 14.0% of the neutral category, indicating a moderate opinion. Therefore, it appears that the majority of respondents had a favourable impression of the recently launched Fund Campaign Platform. Looking at the % distribution and the frequency, there is a clear pattern. With a total of 74.0 percent (36.0% Agree and 38.0% Strongly Agree), most respondents think the platform does a good job of providing attractive and easy-to-understand details about fundraising efforts. This indicates that a large percentage of the people who took the survey think the platform does a good job of making the content relatable to them. The total number of people who disagree, including those who strongly disagree (6.0%) and those who disagree (8.0%), is comparatively lower at 14.0%. This represents a split in opinion that raises the possibility the platform isn't doing a great job of delivering convincing data. Twelve percent of respondents fell into the "Neutral" category, which denotes a middle ground position where they are neither very for or against the platform's ability to communicate fundraising campaign details. Therefore, the majority of respondents think the Fund Campaign Platform provides excellent, easy-to-understand information about fundraising efforts.

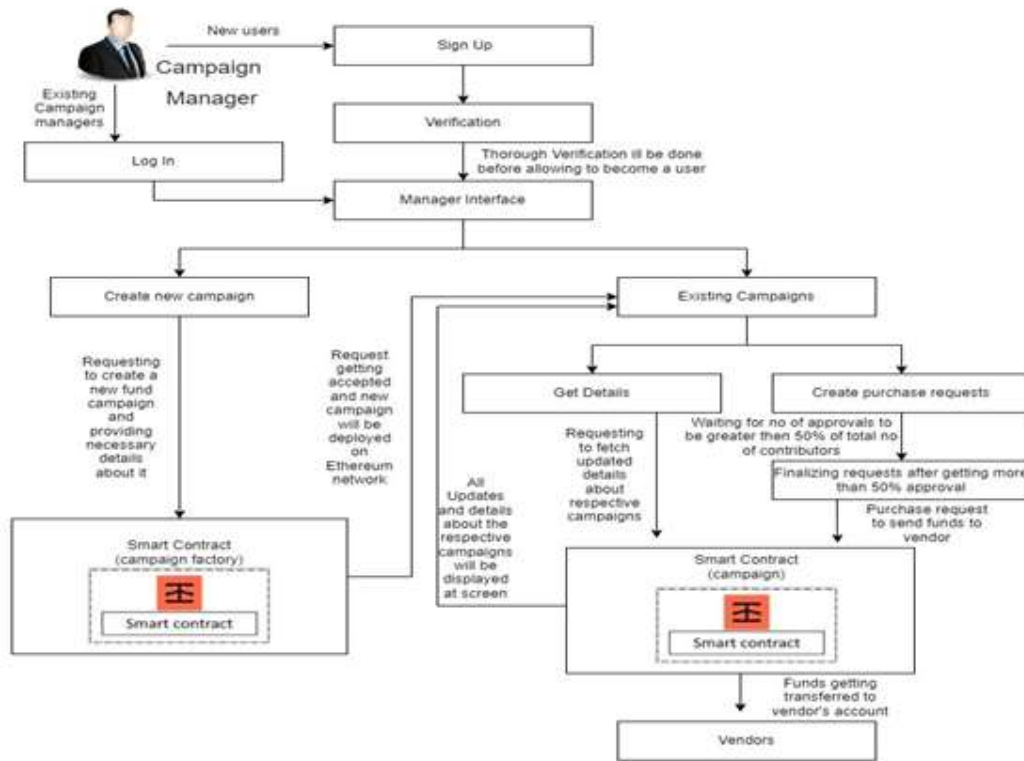


Figure 2. Activity Diagram depicting Campaign manager Interface

TABLE I. THE PLATFORM EFFECTIVELY ATTRACTS THE ATTENTION OF POTENTIAL DONORS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2.0	2.0	2.0
	Disagree	6	12.0	12.0	14.0
	Neutral	7	14.0	14.0	28.0
	Agree	16	32.0	32.0	60.0
	Strongly Agree	20	40.0	40.0	100.0
	Total	50	100.0	100.0	

TABLE II. THE PLATFORM PROVIDES CLEAR AND COMPELLING INFORMATION ABOUT FUNDRAISING CAMPAIGNS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	6.0	6.0	6.0
	Disagree	4	8.0	8.0	14.0
	Neutral	6	12.0	12.0	26.0
	Agree	18	36.0	36.0	62.0
	Strongly Agree	19	38.0	38.0	100.0
	Total	50	100.0	100.0	

There is a broad consensus among respondents (54.0%) that the platform is straightforward to use and navigate. This shows that a large percentage of users are happy with the platform, which is a good clue that the design and interface are well-liked by this demographic. Notably, no one voiced a really negative opinion of the platform's user-friendliness, since there were no respondents who strongly disagreed. Be that as it may, the total of 24.0% must be taken into account, which includes the 6.0 percent who disagree and the 18.0% who are neutral. This shows that some users do not find the site completely user-friendly, but they are in the minority. Consequently, although most users are in agreement on how user-friendly the site is, a small percentage are either neutral or disagree.

TABLE III. THE PLATFORM IS USER-FRIENDLY AND EASY TO NAVIGATE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	18.0	18.0	18.0
	Disagree	3	6.0	6.0	24.0
	Neutral	9	18.0	18.0	42.0
	Agree	2	4.0	4.0	46.0
	Strongly Agree	27	54.0	54.0	100.0
	Total	50	100.0	100.0	

The aggregate percentage of participants who are pleased with their platform experience is 62.0%, which is supported by the percentages of Agree (28.0%) and Strongly Agree (34.0%). This shows that many respondents had little to no trouble learning the software or did not encounter any problems at all. On the other hand, a total of 34.0% of respondents disagreed, with 10.0% strongly disagreeing and 24.0% disagreeing. It seems that several individuals had trouble understanding or using the platform. Some 4.0% of respondents fell into the "neutral" category, indicating a moderate position on the problems faced rather than a strong agreement or disagreement. Users had little or no problems navigating or making good use of the Fund Campaign Platform, according to the majority of participants.

TABLE IV. ENCOUNTERING CHALLENGES IN UNDERSTANDING OR USING THE PLATFORM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	24.0	24.0	24.0
	Disagree	5	10.0	10.0	34.0
	Neutral	2	4.0	4.0	38.0
	Agree	14	28.0	28.0	66.0
	Strongly Agree	17	34.0	34.0	100.0
	Total	50	100.0	100.0	

From what we can see in the numbers, most people are optimistic about the safety of the decentralized network. There are a total of 74.0% of people who agree, with 34.0% strongly agreeing and 40.0% in between. Quite a few people think the decentralized platform is safer than other fundraising platforms, according to the survey. The total number of people who disagree or strongly disagree is 12.0%, which is a far lower percentage. Based on the responses, it seems that few people are worried about the decentralized platform's security compared to others. A moderate position, where respondents do neither strongly favor or oppose the statement, is shown by the neutral category, which accounts for 14.0% of the total. While trying to make sense of the general mood, it's crucial to keep this impartial viewpoint in mind. So, compared to other fundraising platforms, the decentralized platform seems to have a really good reputation for security, according to the survey results.

TABLE V. COMPARED TO OTHER FUNDRAISING PLATFORMS, I BELIEVE THIS DECENTRALIZED PLATFORM IS MORE SECURE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0.0	0.00	0.00
	Disagree	6	12.0	12.0	12.0
	Neutral	7	14.0	14.0	26.0
	Agree	17	34.0	34.0	60.0
	Strongly Agree	20	40.0	40.0	100.0
	Total	50	100.0	100.0	

Examining the data, it is evident that a majority of the participants hold positive views regarding the effectiveness of the two-way security measures. The combined percentage of those who agree (48.0%) and strongly agree (34.0%) reaches a cumulative percentage of 82.0%. This suggests a significant level of confidence among the respondents in the platform's anti-fraudulent practices, indicating that the implemented security measures are perceived as robust and reliable. On the contrary, the percentage of those who disagree or strongly disagree is notably lower, with a cumulative percentage of 10.0%. This indicates a minority perspective that questions or expresses a lack of confidence in the platform's anti-fraud measures. The neutral category, representing 8.0%, suggests a moderate stance where respondents neither strongly support nor oppose the effectiveness of the two-way security measures in preventing fraudulent activities. Thus, the overall trend in the

survey results portrays a positive perception of the platform's anti-fraudulent practices among the surveyed individuals.

TABLE VI. THE TWO-WAY SECURITY MEASURES INSTIL CONFIDENCE IN THE PLATFORM'S ANTI-FRAUDULENT PRACTICES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2.0	2.0	2.0
	Disagree	4	8.0	8.0	10.0
	Neutral	4	8.0	8.0	18.0
	Agree	24	48.0	48.0	66.0
	Strongly Agree	17	34.0	34.0	100.0
	Total	50	100.0	100.0	

V. CONCLUSIONS

A very good outlook on the recently created Fund Campaign Platform has been shown by the thorough examination of the poll respondents' opinions. In a number of ways, participants think the platform is effective. First, everyone is in agreement that the platform provides very effective communication by providing straightforward and interesting data on fundraising initiatives. In addition, many people are in agreement that the platform is easy to use, which indicates that they had a positive and accessible experience. The small percentage of people who were ambivalent or disagreeable implies there might be space for small improvements to accommodate different user tastes. The majority of users reported minimal or no issues in understanding or utilizing the platform, continuing the favorable user experience. The platform's intuitive layout and speedy onboarding procedures are proven by this. The questioned respondents have a positive impression of the Fund Campaign Platform's security, which is an important feature of any fundraising platform, when considering it in the light of its decentralized nature. When contrasted with other fundraising sites, this speaks volumes about the platform's reliability and legitimacy. Further evidence of the platform's dedication to protecting fundraising campaigns from fraud is the excellent reception its anti-fraud policies have received. For the platform, the contributors, and the organizers to build confidence, this is an essential component. Lastly, the platform's technical stack—which includes Ganache-CLI, Metamask, HTML, JavaScript, ReactJS, NextJS, and Solidity—has received a resounding thumbs up. A solid and carefully selected technology stack is crucial to the success of a fundraising platform, since the majority of respondents feel that it greatly enhances the platform's effectiveness. Consequently, the report as a whole presents the Fund Campaign Platform in a positive light, praising it for its efficacy, ease of use, security, and technological strength. These favorable impressions lay a solid groundwork for the platform's success and indicate that it has connected strongly with its intended audience, which includes organizers and donors.

These results from the Fund Campaign Platform allow us to make some important suggestions to stakeholders on how to improve and make the most of the platform. Whatever it is about the Fund Campaign Platform—its decentralized nature, its anti-fraudulent measures, or its technology stack—that has garnered such excellent reviews, stakeholders should take advantage of it. To do this, marketing materials for the platform should provide endorsements, success stories, and user testimonials to increase trust and attract new sponsors and event planners. Regularly soliciting user feedback through focus groups, surveys, and direct contact channels can encourage a culture of continual improvement. Stakeholders will be able to respond to new threats, discover untapped possibilities, and adjust to changing customer demands through this iterative approach. Also, add services like forums, message boards, or community events to help users feel more connected. This has the potential to increase participation from users, make information sharing easier, and build a community that will back the Fund Campaign Platform. However, it is crucial to address the concerns voiced by the minority that is indifferent or disagrees with the platform's user-friendliness, even though most people agree with it. Improving the user experience for more people is possible through usability testing, collecting more user feedback, and making specific changes.

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