

CHARITY AND DONATION TRACKING SYSTEM USING QUEUE STRUCTURE

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Abstract— *With the advent of new technology and online payment systems, acquiring donors for charitable causes has become easier. However, the donation process often ends for donors once they have made their contribution, leaving the remaining work to the charity. This lack of visibility and involvement can lead to donor disengagement and hinder future contributions. To address this problem, we propose implementing a comprehensive donor tracking system that uses the queue which operates on a first-in, first-out (FIFO) basis. This system ensures that the first donor's donation is prioritized and fulfilled before the second donor can utilize and benefit from their donation. This system aims to provide real-time updates on the progress and impact of donations, bridging the gap between donors and beneficiaries. Existing online donation platforms often focus solely on facilitating payments, neglecting post-donation tracking. This lack of transparency leaves donors unaware of how their contributions are utilized and whether they reach the intended beneficiaries, potentially affecting donor trust and confidence. By implementing the queue method, charities can streamline donation workflows, track, and acknowledge donations, and provide transparency to donors. When we examine the current tracking methods used in the donation field, it becomes evident that only a limited number of methods, and only blockchain-based systems are in use. Unfortunately, these systems tend to escalate costs significantly. This paper highlights the how and what are the benefits of adopting the queue method for donor tracking, including improved donor engagement and trust. Ultimately, the proposed system enhances donor satisfaction and maximizes the impact of charitable giving.*

Keywords— *tracking donations, queue data structure, transparency, trusted charities, cost-effective, blockchain.*

I. INTRODUCTION

Charitable organizations play a crucial role in addressing various global issues and providing assistance to those in need. Whether it's natural disasters, economic crises, or personal hardships, these organizations strive to alleviate suffering and support individuals and communities. However, delivering the benefits of charity to the intended recipients has often proven challenging and costly. Traditional methods of charitable giving, such as collecting donated items and distributing them directly, had drawbacks including high costs, inefficient distribution, and limited transparency. However, the emergence of the internet and advancements in technology have brought about significant

transformations in the landscape of charitable giving. In today's digital era, numerous websites have emerged, providing convenient platforms for donors to contribute online using secure payment systems [1]. This shift has simplified the act of giving, eliminating the need for physical presence and enabling individuals to contribute from anywhere in the world.

To foster trust and inspire ongoing backing, there is a need for a comprehensive donation tracking system. Such a system would empower donors by providing them with detailed information about the progress and impact of their contributions. Implementing a robust tracking system can enhance donor confidence and foster a sense of trust in charitable organizations and online platforms. This increase in donor engagement can lead to a broader donor base, amplifying the reach and effectiveness of charitable efforts.

II. LITERATURE REVIEW

The current donation systems in charitable organizations suffer from a significant limitation – the lack of comprehensive tracking capabilities. This deficiency results in a lack of transparency and poses challenges in assessing the effectiveness of various donation box projects and campaigns. Donors, being invested in the impact of their contributions, value regular updates on the progress and outcomes of the projects they support. However, the absence of reliable tracking features hampers the organization's ability to provide meaningful updates, resulting in reduced donor engagement and confidence.

Furthermore, the heavy reliance on social media platforms for conducting fundraising campaigns exacerbates the problem. While social media provides a vast reach and accessibility to potential donors, it lacks the infrastructure required for effective donation tracking and monitoring. As a result, both donors and organizations are left uncertain about the progress, utilization, and impact of the donations [2].

Creating and maintaining specialized tracking systems may be difficult for charitable organizations. They are unable to correctly manage donations, maintain transparency in fund usage, and provide contributors with the essential proof that their contributions are having a real impact because of a lack of resources or expertise in technology.