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INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)
(Int Peer Reviewed Journal)
Vol. 04, Issue 10, October 2024, pp : 1112-1115

e-ISSN : 2583-1062
Impact Factor : 7.001

AIDLINK - CONNECT. DONATE. IMPACT

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DOI: https://www.doi.org/10.58257/IJPREMS36408

ABSTRACT

AidLink is a platform that connects donors with individuals needing essential items such as food, clothing, and sanitary products. The system provides an accessible way for donors to contribute during emergencies and crises, helping those in need while fostering community. AidLink aims to improve resource allocation during critical times by offering donors, administrators, and recipients a user-friendly platform.

Keywords: AidLink, Donation System, Community Support, Emergency Relief, User-Friendly Platform, Needy, Donors, NGO, Crisis Management

1. INTRODUCTION

The Indian charity sector has recently come under public scrutiny, leading to a trust def- icit and reduced public good-will. Undoubtedly, charitable giving is important in natu- ral disasters and giv- ing money. However, this concept of philanthropy fights with a lack of reve- nue transparency, which re- sults in dis- content among the givers. Re- storing confidence in non-profit organizations is closely related to making it easier for donors to track their donations and in- creasing clarity of social assistance.[1] After disasters, communities lose access to es- sential resources like healthcare, food, and shelter. Timely and coordi- nated responses are crucial, but tradi- tional donation systems often lack effi- ciency and transparency, leaving re- sources stranded and beneficiaries un- sure about the effectiveness of aid.[6] AidLink is a centralized web platform that connects donors directly with indi- viduals in need during disasters. By streamlining the donation process and eliminating interme- diaries, it facili- tates the efficient distribution of essen- tial items like food and clothing.

2. LITERATURE SURVEY

Literature on platforms of donation high- lights the different systems, such as Go- FundMe, Give Directly, and food banks, which can be noted to address financial and in-kind aid, but often emphasize mon- etary donations or limited assistance types. Platforms like GoFundMe and crowdfund- ing systems have a focus on monetary con- tributions, whereas NGOs and food banks pro- vide necessary goods, but suffer logis- tical bottlenecks. With AidLink, these plat- forms' strengths are outshone by setting up a user- friendly, real-time donation system right for those who need it: donors, partic- ularly for emergencies, providing both monetary and in-kind support in a struc- tured and scalable way. Malnutrition in a country's younger generation directly im- pacts literacy and economic status. A hun- gry community breeds unhealthiness and low education [2]. ShareTheMeal app, by the United Nations World Food Pro- gramme. ShareTheMeal enables users to "share" meals with those in need through micro-donations, which it turns into food assistance in hunger-af- fected countries. Although ShareTheMeal primarily facili- tates cash contributions to- wards food, AidLink allows donors to donate real goods-ranging from clothes to sanitary products, equally critical at the time of a disaster.

1. Traditional Web-Based Donation Sys- tems (Without Blockchain)

Traditional web-based donation manage- ment systems, such as GoFundMe, Just- Giving, are widely used platforms where donors can contribute either in-kind dona- tions or monetary support to various causes. These systems focus on ease of use, providing intuitive interfaces where users can create accounts, browse needs, and make donations.

Strengths:

- User-Friendly Interfaces: Tradi- tional systems prioritize simplicity and accessibility, making it easy for donors to engage with the plat- form and make contributions. Plat- forms like GoFundMe and JustGiv- ing have become popular because of their straightforward user expe- rience, particularly for one-time dona-tions and fundraisers.
- Established Networks: Many tradi- tional platforms already have large user bases and are integrated into broader social media ecosys- tems, which help with promotion and visibility.
- Centralized Control: A single enti- ty or organization typical- ly oversees these platforms, ensur- ing a streamlined user experience while providing support for dis- putes or transaction issues.

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Weaknesses:

- Transparency and Trust Issues: While these platforms may offer some level of donation tracking, they often lack real-time transpar- ency into how funds are being used. Users must rely on platform ad-ministrators or third parties to provide accountability, which can lead to trust issues in some cases.
- Security Vulnerabilities: Central- ized donation systems are more vulnerable to data breaches and hacking, as all sensitive user data and transactions are stored on cen- tralized servers.
- Processing Fees: Traditional plat- forms often charge service fees or processing fees, which reduce the total amount of donations reaching the intended cause.

2. Web-Based Donation Systems with Blockchain Technology

Blockchain technology offers transforma- tive potential in the realm of donation management systems, primarily due to its inherent capabilities for transparency, se- curity, and decentralization. Unlike tradi- tional centralized systems, blockchain al- lows for a distributed ledger where all do- nation transactions are recorded immuta- bly, ensuring that donors and recipients can track the flow of funds and resources in real-time.

Strengths:

• Enhanced Transparency: Blockchain's decentralized ledger enables all transac- tions to be publicly visible and verifiable. This transparency helps mitigate issues of fraud or misallocation of funds, as every transaction can be traced from the donor to the recipient.

• Improved Security: The decentralized na- ture of blockchain, combined with crypto- graphic proto-cols, provides a high level of security for both donors and recip- ients. Since the data is spread across a network of nodes, it is signifi- cantly more difficult for hackers to compromise the sys-tem or tamper with transaction records.

• Smart Contracts: Blockchain platforms often integrate smart contracts, which are self executing contracts with terms directly written into code. These smart contracts can ensure that funds are only released when specific predefined conditions are met.

Problem statement:

According to research by the State Bank of India, released in February 2024, the pov- erty rate in the country fell to 4.5-5 percent in 2022-23. The main problem in this re- search study here is to find needy people and cover all the issues and problems that they face in daily life.[3]. The project “AIDLINK” seeks to assist individuals willing to offer help to those in need of basic crucial items such as sanitary materi- als, food, and clothes. The relevance of this project increases during emergencies or disasters be-cause they can respond to existing needs that are time-sensitive and make a greater impact when effec-tively applied. There is none at the moment, oth- er than the volition of those who want to help, as there is no structured process link- ing the needy with those willing to assist either directly or through NGOs and this results in unnecessary delays. Moreover, the distribution of the help and ensuring that the in- tended beneficiaries receive it on time has been an issue. Many people who could have been assisted remain ig- nored or go without assistance in time due to disorganization. This project aims to address these challenges — by employing a straightforward web-based application that ensures safe and effi-cient disburse- ment of gifts, and presents a channel for the needy to express their requirements and for admins to control the whole sys- tem. AIDLINK will incorporate features such as separate dashboards for donors, needy recipients and administrators to pro- vide real time responses for the needy and control the processes for efficiency.

Aim and objectives:

This project is targeting the development of an online platform named AIDLINK which will help in link-ing those willing to give essentials like food, clothes, and sani- tary pads to those who need them during disasters and other emergencies. AID- LINK represents the one integrated system that would encourage people who want to help, to do so in a more organized and ef- ficient manner. The main purposes of this project are creating User Interfaces with separate dashboards for admins, Donors, Needy persons and giving each sectional users the capability to make real-time re- quests, and enabling them to submit their donations and view their donation history. An emergency assistance section to assist during disasters prioritizing the most ur- gent needs will be included, and secure interuser communication will be provid- ed. All administrators will have access to manage the system to avoid negligence and all requests will be responded to so that the entire model does not collapse. Finally, the key aim of the project is to provide relief to the sorrow by creating a world where everybody can reach the suf- fering quickly and easily.

Proposed solution:

The most favorable solution for the project AIDLINK, put forth by the partners in this project, empha-sizes the authoring of the web-based interface that acts as an inter- mediary between parties tracking es-sential aid substances

such as food, clothing, and sanitary materials, especially in times of crisis. The platform will have three main user roles: Admins, Donors, and Needy Individuals/NGOs, each of them with a dedicated dashboard. Admins will control and registration of users and the requests made, as well as the relevant trends in do- nations ensuring the most needed ones in a disaster are catered for in time. Donors will be required to log in securely to browse the requests posted and select those they would want to give aid in any particu- lar form while also monitoring their dona- tion history. On the other hand, individuals or NGOs who are needy will create and post their requests with the option of edit- ing them and viewing the progress of their requests. Also, the system is planned to be designed with an Emergency Assistance Section where most of the urgent requests will be shown and covered, and a Notifica- tion System about the current status of do-

nation requests and new ones with regards to their volume. This solution seeks to en- hance the provision of timely assistance to those in need during a crisis by assisting in the establishment of a clearer order, trans- parency of processes, and responsiveness within the targeted audience.

Functional and nonfunctional requirements:

1. Functional requirements

- Admin Login: All this while ad- mins are managing users, requests, and donations securely on the plat- form.
- Donor Login: Donors can log in and browse needs, donate items, or money, and also track their dona- tion made.
- Login for NGO: They log in to re- quest items, update requests, and view donations.
- Dashboard: All the user's donors, admin, and needy-possesses a per- sonalized dashboard to man-age all the activities.
- Emergency Assistance: Instantly, it will have options for prompt re- quests and donations in case of dis- aster and emergencies.
- Notifications: Alerts users about new requests, donations, and criti- cal changes.

2. Non-functional requirements

- User-Friendly: Easy navigation for every end-user.
- Security: Encrypts the data and fea- tures secure login credentials.
- Scalability: Handles the growing number of users during peak times without breaking down.
- Performance: It has fast loading times and smooth running even when many users are on the sys- tem simultaneously.
- Responsiveness: It is user-friendly on mobile devices for easy access to the system.

Advantages:

- The platform is uncomplicated and very user-oriented as both donors and needy people can navi-gate through the system effortlessly.
- It allows assistance to be provided at the right time during the critical need, as needs are posted and do- nors respond.
- With the removal of intermediaries, there is improved communication and accountability as needy per- sons interact with donors directly.
- Donations and requests are updated instantly, therefore, users of the platform are able to know what stage has been reached.
- The system operates in a transpar- ent manner allowing donors to see how their donations have been used and therefore, enhances the possi- bility of more donations being made.
- Admins, Donors, Needy individu- als are presented with separate dashboards which add to the proper arrangement of the platform and management of it.
- It enhances citizens' involvement in helping people when it is most needed, that is, it raises citi-zens' concerns towards critical situations.

3. CONCLUSION

AidLink - Connect. Donate. Impact is a powerful platform that bridges the gap be- tween those in need and those willing to help. By facilitating donations of essen- tial items such as food, clothing, and sanitary products, particularly during times of emergencies and disasters, AidLink strives to reduce suffering and im-prove the well-being of vulnerable communities. The project's user-friendly interface and distinct roles for donors, NGOs, and

administrators make the system efficient and accessible. AidLink has the potential to strengthen communities through its fo- cus on generosity, compassion, and com- munity in-volvement. It fosters connec- tions between individuals and encourages a culture of giving, creating a network of support for those facing difficult circum- stances. Offering tools like the emergency assis-tance section and real-time notifica- tions, it ensures that urgent needs are met promptly, providing a sense of relief and security for those affected. Ultimately, AidLink's success depends on the partici- pa-tion of donors, administrators, and the community at large. Through continued involvement, we can make a lasting differ- ence in the lives of those who need it most, ensuring that help is always available during the most critical times. Together, we can build a stronger, more compassion- ate community.

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