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SURVEY ON ONLINE DONATION SYSTEM

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Abstract: Traditional way of fund raising is obsoleted because of getting less attention and delay in gathering funds. Online donation-based crowdfunding has brought new life to charity by soliciting small monetary contributions from crowd donors to help others in trouble or with dreams. Recent years have witnessed the rapid development of crowdfunding platforms among which the donation-based ones are becoming increasingly popular. The proposed System is a platform, which is designed in such a way that recipients can create their own profile, which is verified and displayed to donors. The proposed system offers more attention from donors. So, Fund raising can be done a bit faster.

Keywords: Crowd funding, Machine Learning, Amazon S3.

I. INTRODUCTION

The invention of internet provides opportunities for Crowd Funding. Leveraging Internet, crowdfunding has brought new life to charity, i.e., making it easy to donate any amount of money even every penny to help others across the globe. The proposed System provides an interface where Recipients can raise fund for medical treatments and Donors can donate funds for the needy one. Donations are transferred directly to the recipient's bank account without any third-party interference.

II. THEORY

A. DONOR MODULE

Donor interacts with Donor module to make donations to the recipient. Donor will need to go through the registration and login which will verifies the donor's identity. After successful Registration, the Donor can view the verified profiles of the recipients. If the donor is ready for making donations, he/she can donate any amount directly to the recipient's bank account using any payment method. The Donor can view the progress of funding in every recipient's profile.

B. RECIPIENT MODULE

Customer interacts with customer module to request Funding for medical treatments. Initially Recipient will need to go through registration and login Process. After successful registration, the recipient is required to submit the medical documents for verification. The submitted documents are stored in amazon S3. After ingesting the documents, a three-layer analysis is performed to verify the Genuinely of the document. After the verification, the profile is listed to the system and is ready for receiving funding. The recipient can view the progress of the funding and once the target amount is achieved, the donation will be disabled and the profile will be removed.

C. DOCUMENT VERIFICATION

In document verification, we are ingesting documents from recipient application into the amazon S3 bucket. Then using Textract and Rekognition for document Feature analysis. Amazon sage maker is used for machine learning along with a feedback mechanism to enhance verification accuracy. Hence, we are performing textual analysis, image analysis and document analysis to verify the authenticity of the document. Textual analysis deals with text in the document. The second layer is to analyse the graphical component of the document. It will analyse the logo, figures, text sections etc. The third layer deals with the specific physical characteristics such as colour, thickness, texture and layout. This analysis can be used to build, train and deploy the machine learning module using Sagemaker.

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III. RELATED WORK

Here are some papers from which the proposed system takes references from.

In this paper [1], the authors proposed a focused study on donation recurrence and donor retention with the help of large-scale behavioural data collected from crowdfunding. Specifically, we propose a Joint Deep Survival model, i.e., JDS, which can integrate heterogeneous features, e.g., donor motives, projects recently donated to, social contacts, to jointly model the donation recurrence and donor retention since these two types of behavioural events are highly relevant. In addition, we model the censoring phenomenon and dependence relations of different behaviours from the survival analysis view by designing multiple innovative constraints and incorporating them into the objective functions. Finally, we conduct extensive analysis and validation experiments with large-scale data collected from Kiva.org. The experimental results clearly demonstrate the effectiveness of our proposed models for analysing and predicting the donation recurrence and donor retention in crowdfunding.

The paper [2] proposes a system Based on the college student's entrepreneurship crowdfunding, this paper explores construction and application for college student's entrepreneurship crowdfunding platform. This paper puts forward some constructive suggestions on design, compositions, profit earning and technology of college students entrepreneurship crowdfunding platform, aiming at meeting the requirements of the college students entrepreneurs.

The paper [3] Using the means of "problem solving + meaning construction" from social innovation design, this paper sorts out the problems in the development of charity and the social values that need to be constructed. Using the means of "collaboration generates value" and "building appropriate social relations for all stakeholders" to guide the roles design and collaboration rule design of Afu charity service system. In Afu, at the same time of solving the problems in charity such as lack of trust, poor information and difficult to help poverty people's daily life needs, we build the social values of donor satisfaction, trust, active participation and respect of the beneficiaries, and expand the social influence of charity.

The paper [4] proposes the study adopted quantitative research to study people's behaviour towards charitable donation and gathered opinion on the mobile donation app. The survey was conducted online with samples of 20 respondents. The paper also adopted the Rapid Application Development (RAD) approach to develop this mobile app's system. The RAD approach enabled the development of the mobile app prototype to be completed quickly and enabled end users to test the mobile app to provide recommendations and make changes easily. The results of the system tests indicated that the mobile app achieved the goals of the study, but the respondents also responded to several improvements needed for the prototype. The system prototype had successfully achieved all project objectives and expected results. However, the prototype exists a lot of limitation and required better enhancement in the future

The paper [5] presents the research which shows that once irrational fear is modelled along with the strategies associated with the design of the reward system, the total pledged amount for a project can be predicted in order to scheme their strategies based on the situation. For simplicity and consistency, the model is based on Kickstarter funding campaigns of physical products that are used as rewards for support. This paper discusses the influence of potential strategies for increasing the total pledge, such as modelling irrational fear and limiting rewards.

The paper [6] implements a simple mobile based application to connect people who are interested in donating their books to those who might be in need. This application has been named `Bridge' keeping in mind that it will connect the needy and the donors and enable them to get the books that they require from people that are done using them. The "Bridge" book donation app connects the people who have books lying around their house that they do not need any more with the people who are in need of these books. One can register to donate quite easily. It can be easily used to contact those who want to donate and the receiver can also complain if the book they have received are not up to date. It will allow people to take out those books from home that are not being used by them and then give those to someone who really needs them.

The paper [7] discusses the Decentralized Donation Tracking System based on Smart Contract on blockchain technology helps record the transactions of individual(s) making donations and gather information of where the donations are being spent. Smart contracts using blockchain implemented helps in controlling the transfer of tokens or digital currencies between the ends parties involved in the transaction directly without the need to depend on a trusted third party. The system allows donations and receives donations in the form of cryptocurrency. Each cryptocurrency transaction is unique, making it easy to track it through the blockchain. A high level of clarity and social accountability can calm donor minds and encourage them to donate while also strengthening the reputation of giving generously.

In paper [8] The authors develop a utility-based multiple discrete-continuous model that provides insights into potentially large differences in individuals' giving behaviours. Through Bayesian Gaussian processes, the model also incorporates changes in givers' preferences for forms of giving. The authors apply their model to five years of individual giving data. They find that the effects of lifetime, recency, seasonality, and appeals on donation and membership options change nonmonotonically over time and in distinctive ways. The authors demonstrate that the model estimates help predict who will give in more than one form in the future as well as build appeal targeting strategies. The model also shows that fundraising attempts should emphasize participation rather than amount, and that

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long-lapsed members are still worth pursuing for renewal, whereas long-lapsed donors are less productive for repeat giving.

In this paper [9], The author proposes a design where users are often asked to provide proof of identity by taking a picture of an ID. For this to work securely, it is critical to automatically check basic document features, perform text recognition, among others. Furthermore, challenging contexts might arise, such as various backgrounds, diverse light quality, angles, perspectives, etc. In this paper we present a machine-learning based pipeline to process pictures of documents in such scenarios, that relies on various analysis modules and visual features for verification of document type and legitimacy. We evaluate our approach using identity documents from the Republic of Colombia. As a result, our machine learning background detection method achieved an accuracy of 98.4%, and our authenticity classifier an accuracy of 97.7% and an F1-score of 0.974.

The paper [10] largely focused on potential donors' experiences, preferences, and motivations; and testing fundraising tactics and techniques that result in different behaviour by potential donors. More than 40% of the experiments were published in Economics journals. Correspondingly, topics such as warm glow and mechanisms such as lotteries, raffles, and auctions are well represented. Experimental studies largely omit the practical and the ethical considerations of fundraisers and of beneficiaries. For instance, studies focusing on the identified victim phenomenon often stereotype beneficiaries in order to foster guilt among donors and thereby increase giving. We identify several opportunities for research to examine new questions to support ethical and effective fundraising practice and non-profit administration.

In the paper [11], aims to discover the answers to the questions, focusing on the strategies that have proved successful during times of economic crisis. Throughout the exploration there will be a particular focus set on the event industry and its involvement in the realm of fundraising. The aim of the research is to understand how the events hosted by non-profit organizations have changed or been altered to deal with the ever-changing tide of the United States economy. The case study presented focuses on foundations located in Michigan, an area of the country that has seen overwhelmingly drastic effects of the most recent economic crisis.

The paper [12], discusses sources and methods of fundraising, personnel involved in the process and donor relationship practices of NGOs after receiving the funds. For succeeding in any fundraising NGOs need to train its personnel and need to form a group of dedicated individuals. The paper discusses various online and offline methods followed by Indian NGOs for fundraising. The paper is conceptual in nature and the objective of the paper is to discuss the fund-raising practices followed by NGOs in India for their effective functioning.

The paper [13] understands the long-term effects of this fundraising method, we used a mixed-methods experimental design to investigate how face-to-face street fundraising affects organizational reputation and stakeholder support intentions in comparison with letter fundraising. The findings reveal that face-to-face street fundraising has a significant negative influence on the stakeholders' perceptions of an organization. Further, qualitative data show that the negative perception originates primarily from perceived pressure, distrust, and obtrusion, which are triggered by face-to-face street fundraising. Our study thus reveals long-term reputational consequences that non-profit organizations should consider before deciding on fundraising methods.

In this paper [14], The authors propose a method of a multi-format document verification scheme using digital signatures and blockchain. We employ digital signature algorithms to sign document contents extracted using Optical Character Recognition (OCR) methods and attach this signature to the document by converting it into a 2D barcode format. This code can then be used on a shared document to retrieve the document's digital signature and OCR can be used to verify the signature. In addition to this, we also provide an alternative method of verification in the form of forgery detection techniques. These signed documents are stored in a decentralized storage solution backed by blockchain technology, increasing the solution's overall reliability and security.

In this paper [15], The authors proposed an online document verification system based on Attribute Based Encryption (ABE). Third party server considered in this case can be either a cloud or a server taken from a service provider. This paper is aimed at providing access control for users to access the documents hosted online based on user's attributes. The authors show that the proposed scheme is robust against collusion attacks and hacking kind of attacks. Also, it encourages the authorities such as Universities, Autonomous institutions issuing documents for adopting the proposed Online Document Verification System.

In this paper [16], The authors Project the Documents generated by the government will be digitally signed and verified by government authority entitled for the same. Digital Signature of documents will be implemented through Public Key Infrastructure. Certificates serve as identity of an individual for a certain purpose, e.g., a driver's license identifies someone who can legally drive in a particular country. Likewise, a Digital Signature Certificate (DSC) can be presented electronically to prove your identity or your right to access information or services on the Internet. Document Validation will be provided at the user end where he wants to apply for certain governments documents like Pan Card and Licenses.

This paper [17] presents a solution for this problem using text extraction, digital signatures and a correlation score for a set of documents. The paper discusses the impacts and advantages of the proposed technologies against other possible technologies that could serve the same purpose.

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In this paper [18], the paper proposes a method of a multi-format document verification scheme using digital signatures and blockchain. We employ digital signature algorithms to sign document contents extracted using Optical Character Recognition (OCR) methods and attach this signature to the document by converting it into a 2D barcode format. This code can then be used on a shared document to retrieve the document's digital signature and OCR can be used to verify the signature. In addition to this, we also provide an alternative method of verification in the form of forgery detection techniques. These signed documents are stored in a decentralized storage solution backed by blockchain technology, increasing the solution's overall reliability and security.

In this paper [19], The authors propose this paper analyzes and expatiate the issues on those techniques. Most of the verification techniques require change in the process of certificate generation either by changing template, changing paper, changing printers, adding hardware or even adding extra information. This change may mean that the university or verifier needs the proper knowledge to execute and run the proposed technique. This also means that older certificates may not work with the newly introduced techniques. To also add some proposed techniques require a change that is not always easy or cheap like in creating a third body to verify certificates.

In this paper [20], paper studies the select Indian online crowdfunding platforms, their functioning and focus area, CFPs not only support business activities but also social causes. Personal and social causes through the platform. The CFPs were selected to represent a diverse set of crowdfunding areas and the availability of data.

IV .CONCLUSION

The proposed system provides a platform for online Fund raising which helps the recipients to raise their unaffordable medical treatment expenses. The system will be reliable, since the documents are verified using machine learning algorithm. The proposed system provides a transparent donation application for both donors and recipients.

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