



DONATION BOX- ONLINE FUND DONATION APPLICATION

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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. The document Verification from the recipient is done through the Amazon S3 using three layers of verification. Through this verification process, the genuinity of the recipient is verified.

II. Related works

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.

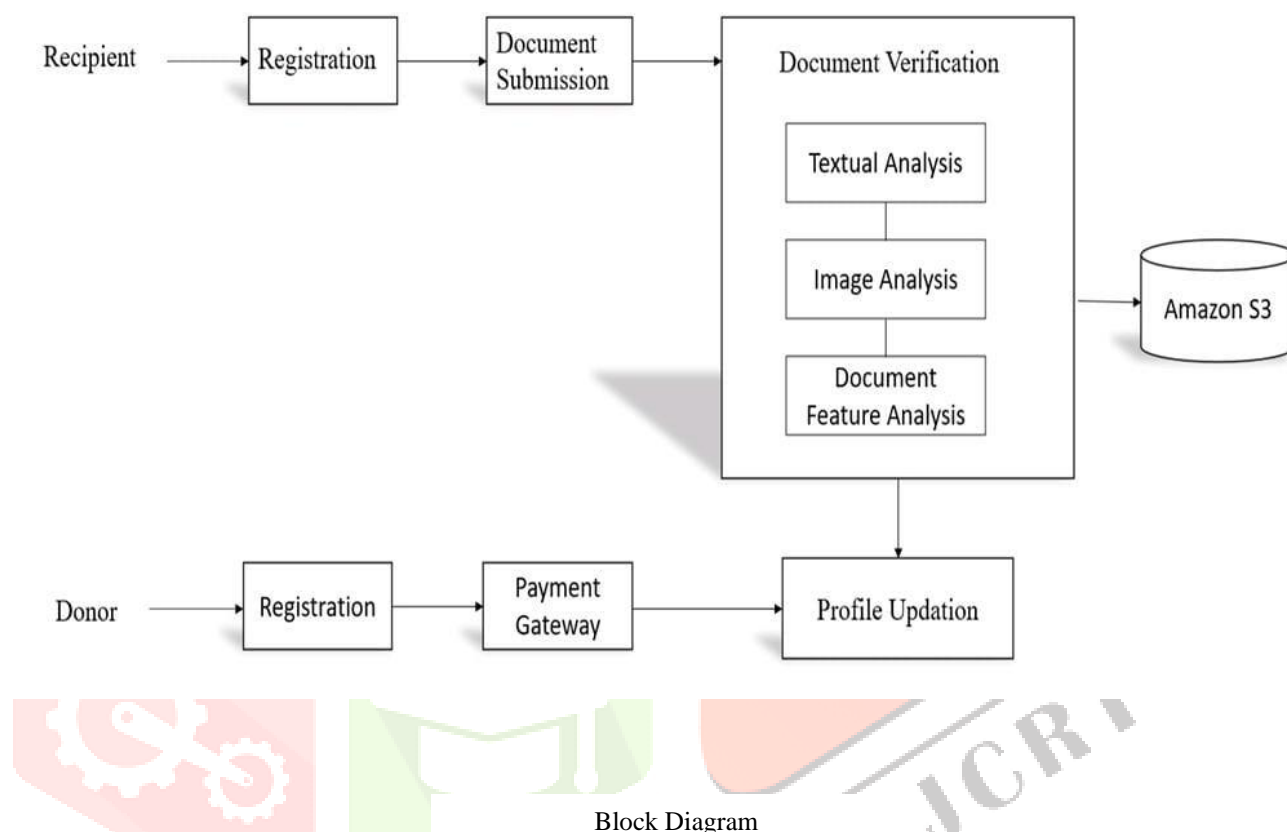
The paper^[3] Using the means of "problem solving + meaning construction" from social innovation design, this paper sorts out the problems in the development of charity and the social values that need to be constructed. Using the means of "collaboration generates value" and "building appropriate social 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.

III. METHODOLOGY

Basically, there are mainly two modules present in Donation Box, Donor module and the Recipient module. After successful Registration, Donor can view the profiles of the Recipients and can donate any amount required by the recipients. On the other hand, Recipients can set up their profile by adding their medical documents, which is later verified with the help of AWS. Any amount donated by the donor will reach directly in to the recipients provided bank accounts. The basic data flow diagram shows what kind of data is exchanged between the platform and the types of users.

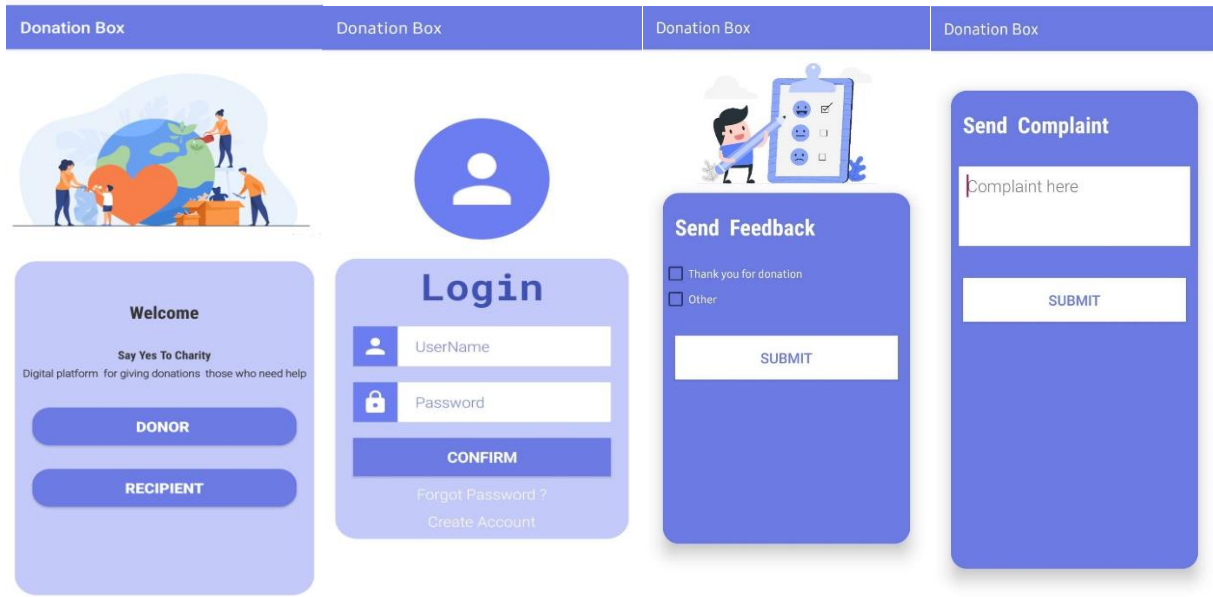


3.1 Donor Module

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.

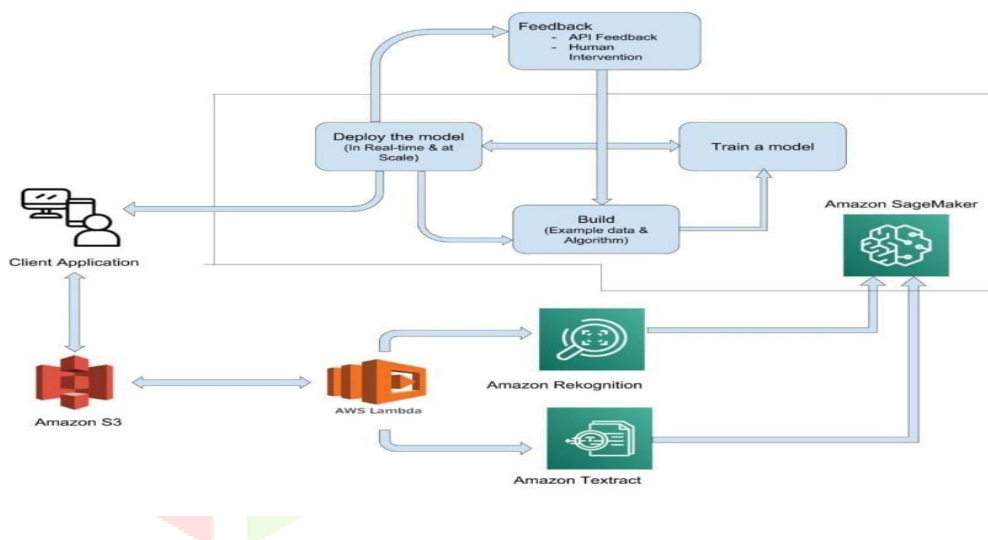
3.3 Recipient Module

Recipients interacts with the Recipient 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 Genuinity 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.



Donation Box UI

3.5 Document Verification



Document Detection Architecture

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.

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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