ISSN: 2278-4632
Vol-12 Issue-01 No.01: 2022

AUTHORIZATION FOR DONATIONS USING OCR ALGORITHM

[1]Kodali Sandhya Rani, [2]Donepudi Naga Sai Dharani, [3]Shaik Alkasha, [4]Manikonda Shalini
[1]Assistant Professor, [2,3,4]Bachelor of technology
[1,2,3,4]Department of Computer science and engineering
[1,2,3,4]Dhanekula Institute of engineering and technology, Ganguru, Andhra Pradesh, India.

Abstract -

When an organization is set up to raise money and provide help for those who are in need is known as Charity. The main aim of this project is to provide a web application including many features for users to access charitable donations and a proper trustworthy donation from the donors to the clients. Only the authenticated recipient and donor can request and donate money here. This system uses the Optical Character Recognition Algorithm which is used to analyze some printed or even handwritten documents automatically by computers to prepare the necessary text data into formats that are editable for efficient processing. This system helps in automatically notifying the donors according to their interest in donation for any particular cause and also has an integrated banking application for secure transactions of donation.

Keywords - Optical Character Recognition, Charity, Donation Funding, Banking.

I. Introduction

"Crowdfunding is a practice of raising funds from people to support your project which has bought new life to charity, i.e., making it easy to donate any amount of money to help across the globe."

In present scenario, "Donation-based" crowdfunding is the most preferred mode of fundraising. Online platforms providing the crowdfunding has no boundaries and has the potential to go viral. As we all know charity giving is the demonstration of giving cash, products or time to the grievous, either straightforwardly or by methods for a magnanimous trust or other admirable motivation.

Most types of good cause are worried about giving necessities - for example, food, water, attire, medical services and asylum, yet different activities might be proceeded as good cause - visiting the homebound, recovering the hostages, teaching some vagrants, and even social developments. Gifts to causes that 2 advantage the heartbreaking in a roundabout way, for example, gifts to subsidize malignant growth research, are additionally good cause. Such foundations lend a hand to those whose time allow themselves to focus on the poor to help them by giving cash to the charity without leaving their work. Such Establishments can endeavor to viably figure out the real penniless from the individuals who deceitfully guarantee the good cause.

II. Literature Review

In **" Improving Donation Distribution for Crowdfunding-An Agent Based Model ",** they proposed a new system for donation distribution aiming (a) the distribution of donations among the charity which in turn help those in need more effectively. and (b) Categorizing the donations according to the donor preferences to make it easier for them to donate. In order to reach these goals An agent based model was proposed. obtained results revealed that the proposed system increased the success rates of projects and projects are successfully developed that are mostly preferred by the donors. The also made some Implications to future crowdfunding

DOI : 10.36893.JK.2022.V12I01N01.535-539

ISSN: 2278-4632
Vol-12 Issue-01 No.01: 2022

platforms. The following selection methods are used, Single selection (SS), Multiple selection without ranking (MS-NR, Multiple selection with ranking (MS-R), Multiple selection with mixed ranking (MS-M).

In **" Online Transparent Charity System ",** this research presents a review on money collection sites, various donation models and process of money collection as well as ways about how the project's results are reported to their respective founders. There is also a proposal on money collection services, where the donars are not charged until the total declared help becomes more than the required resources to complete the project. So, the real deal of missing real donations for the declared payments i.e, after the collection is closed they can be assessed and minimized by building a social network.

In **" A Platform for Tracking Donations of Charitable Foundations Based on the Blockchain Technology ",** in this research they developed a system that offers transparent accounting on operations of charitable foundations, donors, and also recipients based on the blockchain technology. One of the main purposes of this platform is to help do the work of the charitable foundations with reporting documentation as more convenient. Based on the fact that the donation's data will be aggregated in one particular place, the reports are allowed to be prepared automatically. The tasks of the project are divided into three major types, Research part, Requirements analysis and Implementation of the platform.

In **"A Study on Optical Character Recognition Techniques",** Using OCR-Optical Character Recognition a system identifies the text written into the user's verbal communication without any human intervention. In this research, study on various OCR techniques is presented in a detailed view and the hypothetical and numerical models of Optical Character Identification are also resolved and examined. Both The MCR-Magnetic Character Recognition and OCR-Optical character Recognition techniques are used for the recognition of necessary patterns and also alphabets. In MCR algorithm some magnetic ink is used to stamp the alphabets and then the studying machine will categorize the alphabet based on the exclusive magnetic field which is shaped by every alphabet."

III. Existing Work

In the existing systems, the security for donors and recipients for requesting and donating money are not prioritized. The existing system does not provide the prediction of donors, that who are interested in donating and further continues in the donation sequence. They do not provide any security for transactions between and donors and recipients. Mainly there is no particular algorithm to verify the recipient or user as a n authorized personnel.

IV. Proposed Work

Our proposed system uses the Optical Character Recognition Algorithm which is used to analyze some printed or even handwritten documents automatically by computers to prepare the necessary text data into formats that are editable for efficient processing. The developed web application requests user to upload their scanned government authorized identity for verification. The scanned text from OCR algorithm is verified with the details provide in the KYC form. This system also provide various categories to make it easier for donors to choose their particular interests of donations which include, health, education, physically disabled people, Girl Child, Agriculture etc. This system will make a secure transaction from the donors to the clients only after verifying whether the donors and the clients are authorized persons with the help of integrated banking application.

V. Algorithm

"OCR is abbreviated as Optical Character Recognition." The OCR transforms a 2-D image of text, which contain handwritten or machine printed text into the machine readable text from its image representation.

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OCR algorithm processing consists of several processes in order to perform tasks accurately. The subprocesses are:

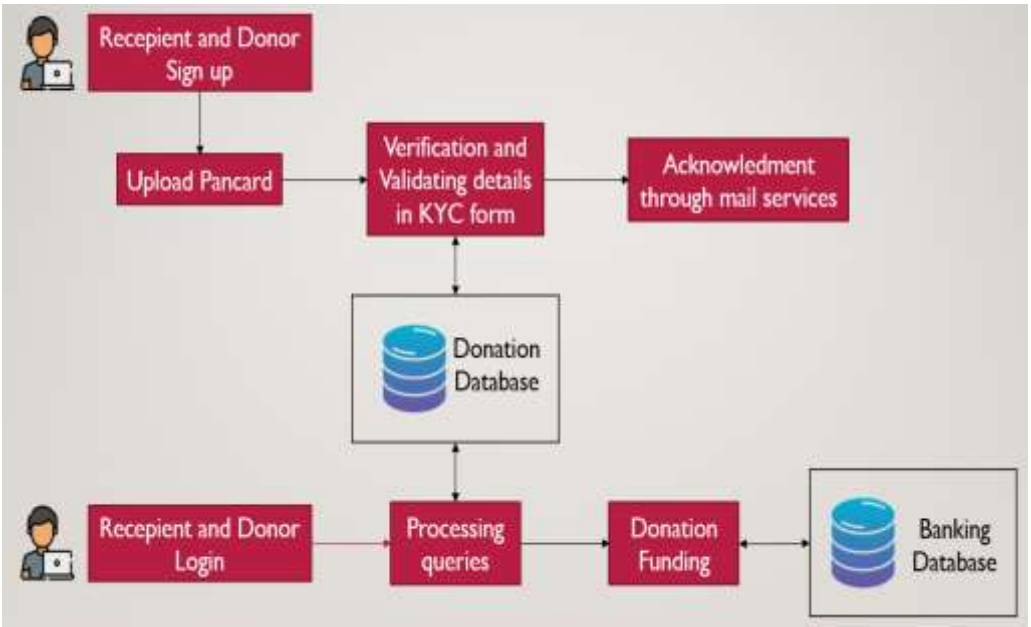
- Image Preprocessing
- Localization of text
- Segmentation of Character
- Recognition of Character
- Post Processing

Pytesseract is a known to be a wrapper for Tesseract's OCR Engine. It is useful as it can read images of all types that are supported by the Leptonica and Pillow image libraries, including jpeg, bmp, png, tiff, gif and others.

VI. Architecture

Representing the whole architecture that provides meaning to one or more stakeholders who are involved in the system is known as Architecture view. Generally, An architecture is usually represented by more than one architecture model which provide detailed description of a system's architecture.

In the current system, the recipient or donor registers for the donation funding by uploading a Pan card for verification. Admin is in charge for the validating of the details provided in the KYC form. Whether the access to the donation funding is accepted or declined is sent to the recipient or donor through mail services. Then the recipient or donor proceeds with the donation funding by accessing the integrated banking application for secure transactions.



"Architecture of Donation Funding."

VII. Databases and Modules

A. Databases

In the developed web application we used two databases:

- Donation Database

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ISSN: 2278-4632
Vol-12 Issue-01 No.01: 2022

- Banking Database

Donation Database – This database contains details about the recepients and users like Full name, Pan id, DOB, Age, Income, Gender etc. participating in the donation funding for a charity.

Banking Database – This database contains the details about banking like Account Name, Pin, Opass, Account Number etc. of the users involved in the transactions for donations.

B. Modules

Recipient Authentication:

The recipient has to fill the registration form with required input fields and the personal details completely. These details will get further viewed by the admin.

Donor Authentication:

The donor has to fill the registration form with required input fields and the personal details completely. Then, the details of both recipient and donor will get further verified by admin.

Recipient's Requests:

By using the token or password, generated after the verification of recipient's details by admin, The recipient will login only using the unique token to request money. Their request contains the details of the category for which the recipient needs money. The recipient can view their request details and status of donation for their requests.

Donor's Donation Funding:

By using the token or password, generated after the verification of donor's details by admin, The donor will login only using the unique token to donate money. Their request contains the details or the category for which the donor is willing to donate. The donor can also view the history of their donations. After verifying all the details of donor and the recipient, the verifying person will approve the details of recipient and the donor and further allows the process of funding. After the funding process, the donor will be provided a certificate by the government. The donor will get notifications automatically in order to appreciate their donation funding.

VIII. Conclusions

In this research, only authenticated recipient and donor can request and donate money here. This system uses the Optical Character Recognition Algorithm which is used to analyze some printed or even handwritten documents automatically by computers to prepare the necessary text data into formats that are editable for efficient processing. This system helps in automatically notifying the donors according to their interest in donation for any particular cause and also has an integrated banking application for secure transactions of donation.

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DOI : 10.36893.JK.2022.V12I01N01.535-539