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DONATION MANAGEMENT SYSTEM USING BLOCK CHAIN AND ARTIFICIAL INTELLIGENCE

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Abstract - *Orphans are increasing day by day. Almost there are more than 100 million orphans world wide. On the other hand the number of old-age homes increasing day-by-day. Their main issues are lack of foods, clothes and education due to insufficient money. Hence the people who are willing to donate foods, clothes and books can register through this app. This will automatically sends request to the nearest orphanage or old-age home from the current location of the user. There representative of the old age or orphanage home will pickup and deliver the loads. And also live tracking of representative is provided to the donor to ensure whether the loads are delivered to the correct place or not.*

INTRODUCTION

No orphanage No old-age home is a software that is specially developed for orphans and old-age people in old age homes. Since this application connects each orphanage and old age home with the people, this requires the use of graph data structure. This process will find the nearest orphan home which will be achieved using K-nearest node algorithm in artificial intelligence. The connection between each orphanage and old age home will be established using node chain method.

PROBLEM STATEMENT

Donation Management system complicates only due to the lack of delivery options. Most people often not willing to donate products because of irregular delivery system. People do not have enough interest to deliver the products to the destination. Hence there is a need of application which needed to be act as bridge between people and donation centers. This application is enabled to allocate a delivery person who collects the donation items from people and makes it reach the donation centers.

Also there exists a problem of long distance between these end points. Hence the required application must identify the nearby donation centers like orphanages and old age homes. This list of nearby donation centers must be near to the current location of the corresponding user.

EXISTING SYSTEM

Much like the AI approach, the previous method is a IOT Based approach. Donors send rice through financial transactions with service providers, and rice suppliers will ship items to the orphanage. Block chain technology is applied to all parties in order to be transparent and reduce transaction manipulation. Also the next method is used for Adoption and making orphanages patronized. The weary persons can make use of this application for contributing orphans and adopting children. This android application not only indulges in the process of adopting the orphans and providing shelter but also impulses their life by donating food, clothes and money. Then the final system is invented during this Covid-19 period to enable the donation easier. It uses the same Block Chain technology for donations during lock downs. Drawing upon the functional characteristics of blockchain technology, this product envisages the feasibility and reliability of developing a charity donation service system loaded onto blockchain in response to the complex service demands encountered by charity operators due to the Covid-19 epidemic.

However the existing system has the following drawbacks:-

- In the existing system customer follow-up is difficult.
- There exists no pickup and delivery system, no recommendation systems, no on demand deliveries.
- No prediction systems were implemented in the previous system.
- No location preferences exist.

APPLICATION OF BLOCK CHAIN TECHNOLOGY IN CHARITY DONATION INDUSTRY

A series of scandals have rocked the way that the public perceives the typical charity, and trust in charitable organizations. It's no coincidence that headline-grabbing scandals in the world of philanthropy coincided with the decline in faith toward these organizations.

Charities face declining donations among the young, increasing skepticism over CEO pay and concerns about where donations end up. At the same time, they struggle with inefficient, underfunded administration; often can't direct aid adequately and frequently see the most vulnerable and needy miss-out.

Essentially, the term charity has been used and abused, and much of the public is no longer willing to take charities' word as bond.

Blockchain technology could help resurrect the images of charities willing to adopt its services.

By minimizing administrative costs through automation, providing more accountability through traceable giving milestones, and allowing donors to see more clearly where their funds are going, blockchain may help restore some of the lost credibility to charities that prove worthy of the public's trust.

The Blockchain build trust with donors, recipients, and other stakeholders reach the right people and improve administration costs and efficacy. Show donors the difference their donation makes, acquire funds rapidly through crowd funding and hand control to the people you help.

In addition to solving existing problems, block chain solutions can enable charities and non-profits to deliver results in entirely novel ways that would be impossible without the blockchain.

Binance Charity Foundation (BCF) launched its blockchain-based donation portal at the UNCTAD World Investment Forum.

The foundation is a revolutionary donation platform for nonprofits to provide transparency and accountability by making financial information to donors.

The platform is built on the Blockchain technology to ensure that the process is traceable, immutable, and reliable.

''Donations through the BCF platform will ensure full transparency, accountability and direct reach to end recipients,'' said Helen Hai, the head of the Blockchain Charity Foundation (BCF).

BCF's mission is to bring accountability to charitable donations, thereby making a difference to millions of lives around the world. They plan to play a vital role for the communities they support and have an impact on society from the way that they deliver their services to the way they operate within the community.

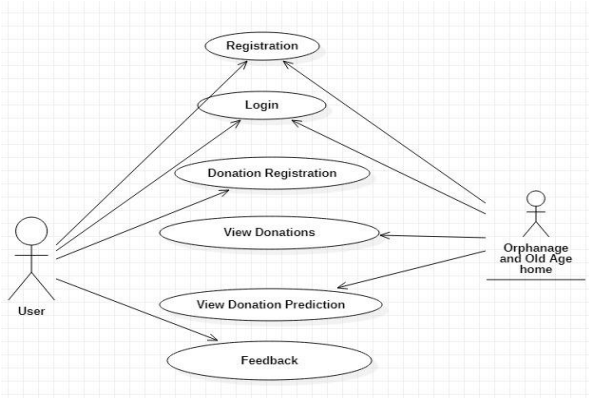
This platform can also provide proof of need and proof of receipt to ensure that the cause is indeed a worthwhile one and that the funds reach the intended party. And because blockchain lowers administrative costs, more funds can reach the right, needy recipient.

For charities, overhead costs have been a point of much contention. These costs denote the number of donations that goes to administrative expenses versus an actual cause, and while many see overhead costs as necessary, exorbitant administrative expense percentages are a red flag.

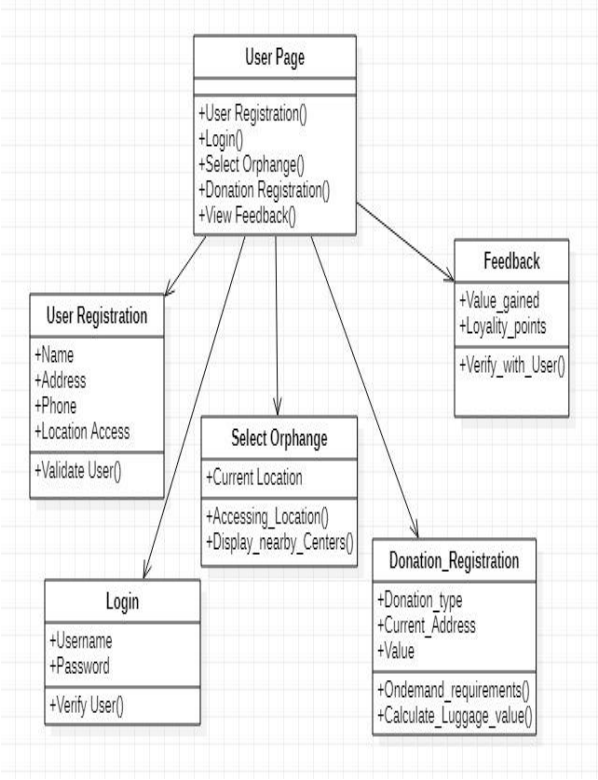
In that perspective, BCF combined forces with 47 companies to introduce the Pink Care Token, a social-impact stablecoin issued on Binance Chain. With the aid of it, the alliance is running a poverty campaign to empower 1 million women in developing countries to improve feminine health and wellbeing. Even this shows how blockchain can iterate charities workflows in the best way.

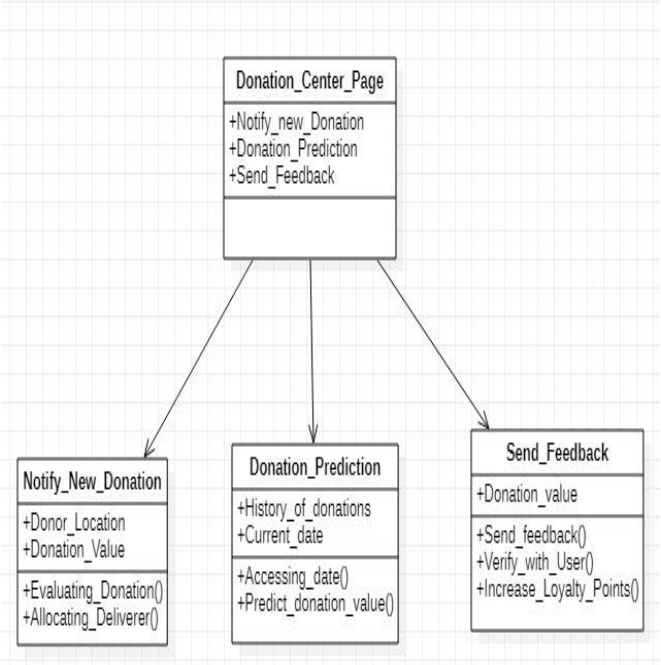
The primary administrative cost for charities is associated with fundraising and marketing or getting the word out about the charity. Blockchain-based platforms are aiming to provide charities with a marketplace to reach a ready-to-give audience, and these platforms take far fewer fees than traditional marketing and fundraising agencies.

ARCHITECTURE AND UML DIAGRAMS

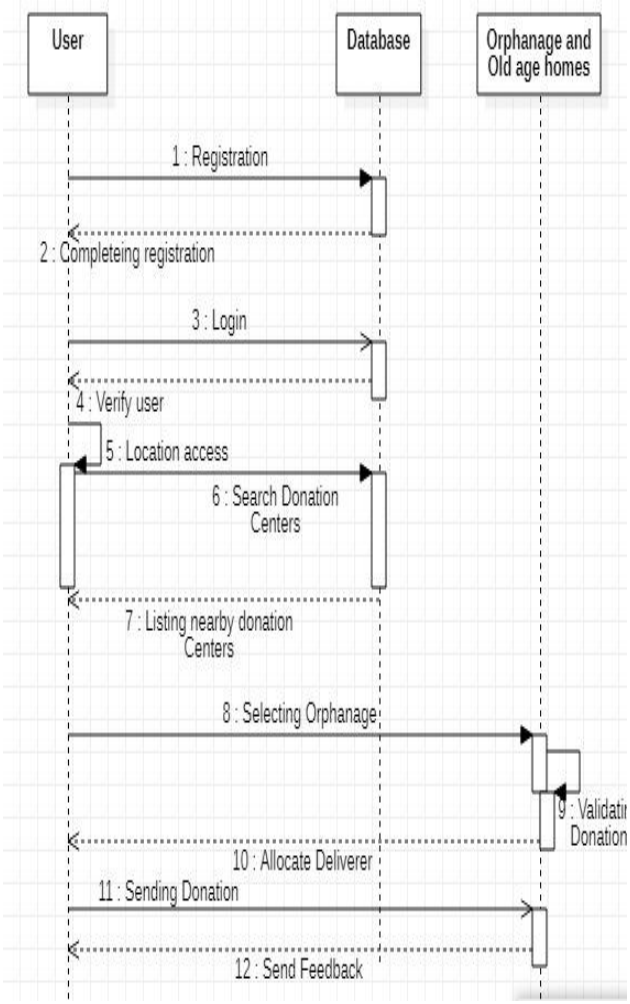


(a) Use Case Diagram

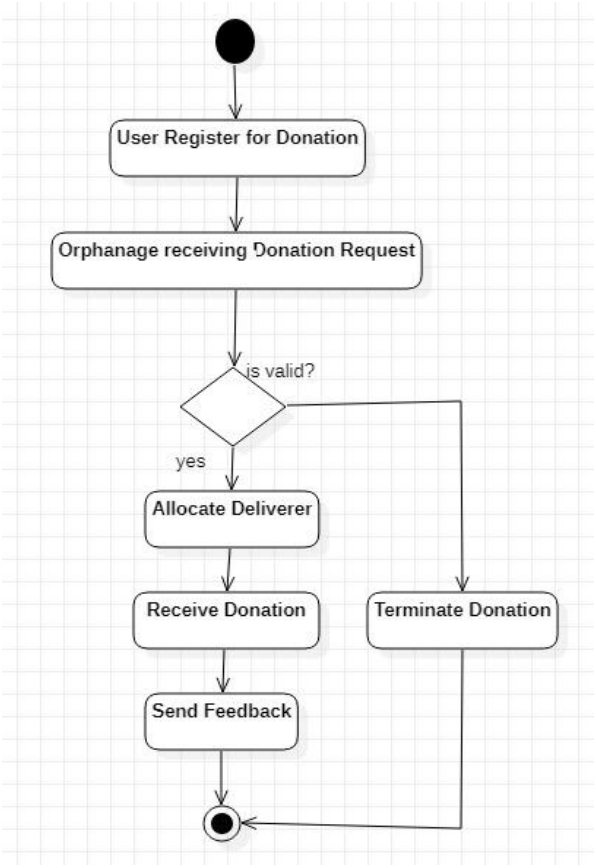




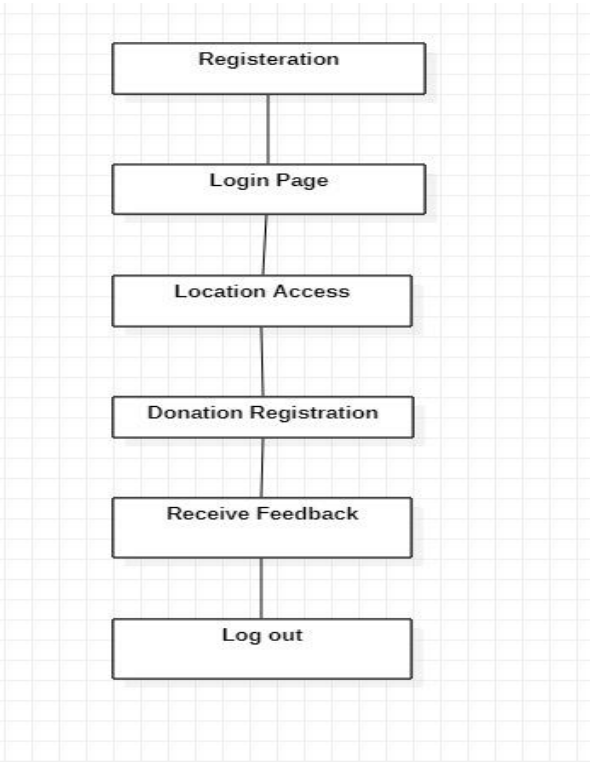
(b) Class Diagram



(c) Sequence Diagram



(d) Activity Diagram



(e) Collaboration Diagram

- A user account is created in the first step using the data entered by the user.
- After the completion of registration. User can be logged in using User name and Password.
- After the user verification the location is accessed for the corresponding user.
- Using the accessed location data, the nearby donation centers are listed to the user.
- From the listed orphanages and old age homes the user can select one orphanage or old age home of his own choice.
- Then the process of donation registration starts. And the value of donation is calculated.
- After validating the donation, a deliverer is allocated to the particular donation to collect and deliver the donation items to the orphanage or old age home.
- After the completion of donation the feedback is sent to the user. This feedback component is very important to verify whether the donation products are reached the destination or not.
- The prediction system works as follows:-
- The past history of data is collected and its value is analyzed based on the dates.
- Using the past history and value analyzed, the prediction of donation value for the current date is done.
- An AI component is used for this purpose for prediction.

SHA256

The SHA (Secure Hash Algorithm) is one of a number of cryptographic hash functions. A cryptographic hash is like a signature for a data set. If you would like to compare two sets of raw data (source of the file, text or similar) it is always better to hash it and compare SHA256 values. It is like the fingerprints of the data. Even if onlyone symbol is changed the algorithm will produce different hash value. SHA256 algorithm generates an almost-unique, fixed size 256-bit (32-byte) hash. Hash is so calleda one-way function. This makes it suitable for checking integrity of your data, challenge hash authentication, anti-tamper, digital signatures, blockchain.

With the newest hardware (CPU and GPU) improvements it is become possible to decrypt SHA256 algorithm back. So it is no longer recommended to use it for password protection or other similar use cases. Some years ago you would protect your passwordsfrom hackers by storing SHA256 encrypted password in the data base. This is no longera case. SHA256 algorithm can be still used for making sure you acquired the same data as the original one. For example, if you download something you can easily check if data has not changed due to network errors.

CONCLUSION

The role of orphannge and old age homes are indespensible to the society. Also scarcity is one of the unacceptable barrier to the country's development.Hence if all orphanages are well infrastructure and provided with their essential needs, a major part of scarcity will be reduced. Hence if all orphanages are well infrastructure and provided with their essential needs, a major part of scarcity will be reduced.

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