A Study and Implementation of Donation Application: The Good Way

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Abstract— **The Good Way is an android based donation application which can be used for donating food items/grains, stationary, medical equipment's, clothing etc. to the under privileged population. This application works on a pick up and deliver model. The donations is picked up from donor's end and delivered at the desired donation drive. The donors have the ability to track their donations as well in order to maintain transparency. The Good Way targets potential clients such as individual household residents, event organizers and NGOs. The good way just serves as a helping hand.**

Keywords— **Charity Application, Donation, Donation application, Food donation, Food wastage.**

I.   INTRODUCTION

India, a country with a population of 1,417,348,172, plays a really important role on the world scale level. In the year 2020, reports estimate that around 16.30% of the country's total population was undernourished. In India, starvation and poor health condition kills 7000 people every day, out of which 4500 are children. This results to 25 lakh deaths every year. And for a nation with the following statistics, we treat food wastage quite casually. 40% of India's domestic produce ends up in the bin. If 40% does not sound baffling enough, it's monetary worth is 92,000 crore Rupees. According to a report, household food wastage in India is estimated to be around 50kg per person annually.

But food wastage is not the only problem faced by the nation. A significant amount of the population is not privileged enough to meet their daily nutritional requirements. To tackle this issue, government has implemented various programs and policies such as Mid-day meal schemes, Public Distribution System along with this, multiple NGOs and organizations also actively participate in helping the under privileged.

Back in 2016, the research paper 'Beyond Food Sharing: Promoting the Reduction of Food Waste with ICTs' was published and stated that maintaining food sustainability is crucial to improving people's quality of life at all societal levels.

Food pollution is evidently visible in a country like India. It can be seen in the overflowing garbage bins, roadside, family events, social gatherings, restaurants etc.

The good way, in a nutshell, acts as a gateway between donors and the not so privileged population. It helps connect donors/volunteers to them.

A. Objective

The good way was developed to tackle this issue of food wastage, but digitally, with the help of an application. It enables people to help others without having to wander around looking for NGOs or under privileged people. It can be easily done with the help of a couple of clicks, without the user having to leave their comfort zone. It aims at hitting two targets - reduce food wastage and helping the under privileged; with a single arrow. The good way application is not restricted to food. The users' have the flexibility to donate anything they wish to. It can either be stationary, medical supplies, clothing etc.

II.   LITERATURE SURVEY

Monika Agarwal et. al (2021) [1] in their research, in order to tackle the problem of food wastage, concluded we have to choose a strategic approach. One key point is identifying the magnitude and hotspots of food loss and wastage. Adopting a harmonized yardstick for measuring food loss and waste can offer more prominent and accurate results.

Mafishan Ali et. al (2019) [2] in their research focused on the advantages of using an application to reduce food wastage. It gives the ability to donate from home easily, and also how GPS makes finding nearest organization easy and user friendly.

Basu S et. al (1992) [3] in their research paper discussed how India's disadvantaged population includes the following groups: scheduled tribes, scheduled castes, hill people, mothers and children, urban slum dwellers, handicapped population, and other backward communities. These groups make up the bulk of India's population, are economically and socially disadvantaged, and often live in geographically remote areas. These people suffer from dire health conditions that are the result of poverty, illiteracy, malnutrition, and poor personal hygiene and sanitation facilities.

Radhika Kapur et. al (2018) [4] in their research paper studied the impact of poverty on education in India. The main objective of the poverty-stricken families is to generate a source of income, so that they are able to fulfil their basic necessities. Educational opportunities that are provided by the society to the poverty-stricken individuals are

insufficient, in terms of access to schools, and access to quality of education in the form of schools with appropriate infrastructure and skillful teachers and pleasant learning environment. The role of the international organizations, private schools and also non-governmental organizations is important but is limited.

Felicitas Schneider et. al (2013) [5] in their researchpaper provided a brief overview of the history of food donation initiatives, details the distinctions and commonalities among the organisations that currently provide food to the hungry, and discusses the logistical,political, legal, social, and other obstacles and motivations that may develop.

Suraya Masrom et. al (2018) [6] in their research paper mentioned we need food to survive and at the same time, it also contributes to the reduction of food loss. While there are Mobile charity applications, they are few and far between, and none connect the needy, donors, and food suppliers to solve problems such as the problem of food loss.This document provides a study comparing the capabilities ofseveral charity mobile applications that define their limits.

Mrigank Mathur et. al (2007) [7] in their research paper, highlighted there are platforms looking to help peopledonate food, the current framework features a new web-basedapplication that provides a forum for all poor people/organizations to recycle their surplus food. This is anefficient way to donate items to organizations over the Internet. It emphasizes the ability to avoid food waste.

Monika Agarwal et. al (2021) [8] in their research paper summarizes the state of play on food loss and waste research in India. This study was undertaken by the World Resources Institute India (WRI India) and the Food and LandUse (FOLU) Coalition's India platform to understand the magnitude of, and identify the hotspots and critical loss pointsof, food loss and waste in India; identify the strategies and interventions implemented to date; highlight the gaps in research, policy, and practice; and suggest some next steps.

Amany El Gouhary et. al (2006) [9] in their researchpaper, highlighted the purpose, design and construct of a hand-held wireless GPS tracking device that can be tracked from the Internet.

Naresh Saxena et. al (2012) [10] in their research paper, mentioned the Government of India also must improvethe design and oversight of central welfare programs such asthe Public Distribution System (PDS), which seeks to distribute subsidized foodgrains to the poor, and theIntegrated Child Development Services (ICDS) meant for children under five. However, food alone does not solve the problem of underweight children, which needs a multidimensional thrust in health, hygiene, water quality, andabove all a change in cultural practices related to child- rearing.

Anmol Tewari et. al (2018) [11] in their research paper highlighted, In the advancing world of technology, Mobile applications are a rapidly flourishing segment of the global mobile market. Smartphone comprise of an importantfeature through which user can easily distribute applications via online market store.

K. I. Satoto et. al (2016) [12] in their research paper,summarized MySQL is the most trusted and depended-on open source database platform in use today. Many of the mostpopular and highly-trafficked websites in the world are built on MySQL because of its ubiquity across heterogeneous platforms and application stacks and for its well-known performance, reliability and ease of use.

III. FIGURES AND DAYA

National Family Health Surveys (NFHS) are been carried outsince 1992-92. A total of 5 surveys have been carried out i.e.:1992-93, 1998-1999, 2005-06, 2015-16, 2019-2021,
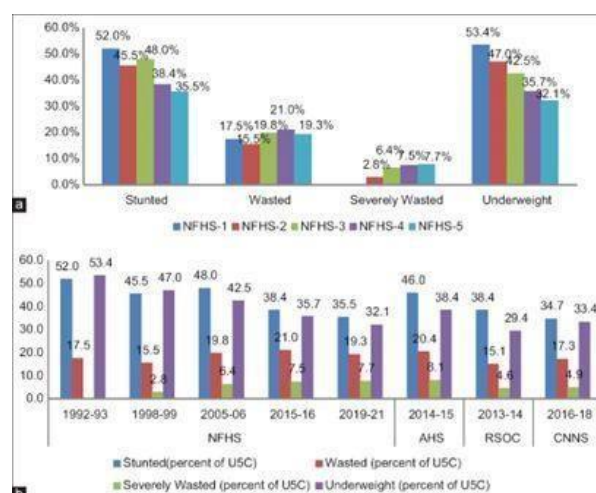

Figure 3.1: Indicators of Malnutrition

The reports of these surveys act as a main indicator of prevalenceof malnutrition. These surveys were large scale and provideddata on indicators of malnutrition and the factors affecting it.The technical support is provided by the international institute for population

sciences Mumbai.

Following Surveys were carried out in 25,25,29,36,36 states and union territories respectively from 1999-2021[figure:1]. All the surveys provided information on indicators and factors associated with malnutrition. The latest survey was carried out in 2 phases due to covid-19 pandemic emergency.Phases being 17 June 2019- 30 January 2020 and 2 January –30 April 2021. The nutrition status data of all five surveys show a decline in different forms of undernutrition.

Even after the efforts and positive changes within the nation,India still ranks more than its neighbouring countries in the index of – "Malnutrition and Death Rates For Children Under5"
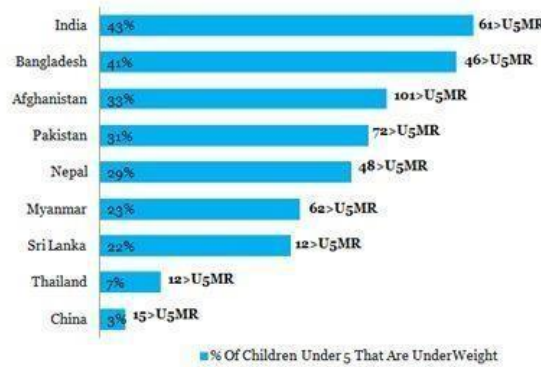
Figure 3.2: Malnutrition and death rates under age 5

IV.   METHODOLOGY

A.   Interface

The Good Way offers two main interfaces, donor and volunteer. The names are pretty self explanatory. The donor can donate items where as the volunteer can eitherpick up and/or distribute the donated items to the under privileged. Upon opening the app, the user is asked to either sign up or log in, in order to proceed. Firebase is used to help the user sign in with their Google account and simplify the log in process.

Figure 4.1: Home screen

B.   Donor

After signing in, if the user selects their role as a donor, there are two options for them. They can either make a new donation or view their previous donation history
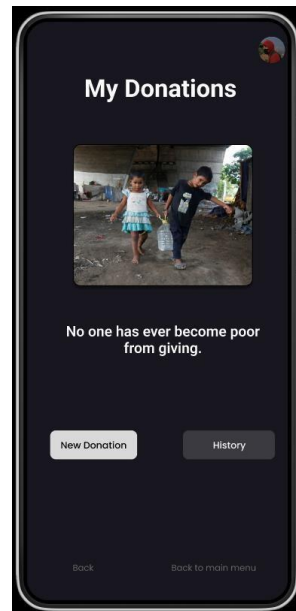
Figure 4.2: Donor option

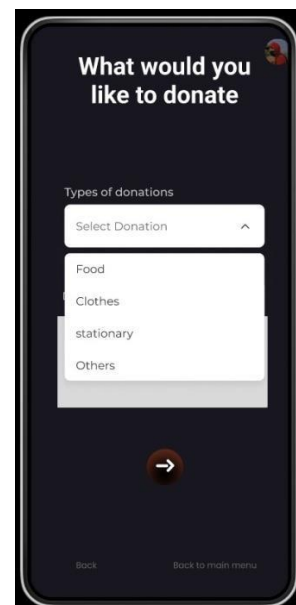If the user decides to makes a new contribution, we have multiples genres for the user to select from.

Figure 4.3: Donation genres

This is done in order to make the delivery seamless andconvenient. It also gives the team a rough estimate of theresources and man power needed to manage the donations. The user can also view the history of previous donations. Thisfunction displays a list of the previous donations.

The user also has the option to explore upcoming scheduled drives and contribute in those drive. They can schedule a pickup for future drive as well. This function displays the dateand location of the drive along with the details of the NGOs,
After signing in, if the user selects their role as a donor, there are two options for them. They can either make a new donation or view their previous donation history if they are participating in the drive as well.

 Integration of GPS is done in order to locate the donor seamlessly. It is used in order to enhance transparency andefficiency. The donor confirms the pickup location makingsure the volunteer reaches the desired place.
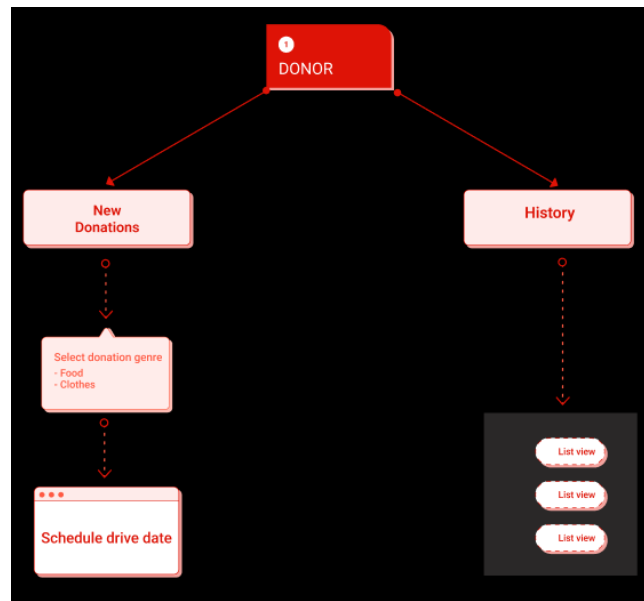
Figure 4.4: Donor flow chart

A minimalistic overall flow of the donor interface can bedescribed as above. Donor has two level under it, new contribution and history.

C. Volunteer

The other significant interface of The Good Way is thevolunteer section. Both the donor and the volunteer are the building blocks of the ideology that we are trying to implement.

Figure 4.5: Volunteer option

Volunteers can choose between options for how they'd liketo help in new contribution and view the drives they have attended in the past in History. The users opting to help as volunteers have two options to contribute towards the society; either help as a volunteer to distribute at the centerand/or pickup and drop the donations.
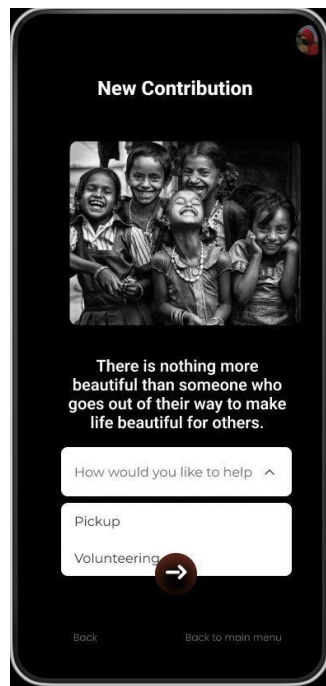
Figure 4.6: Contribution option

The volunteer can already reserve his spot beforehand with the help of our option of Schedule drives. The Good Way does not restrict the user from not helping in case the spot is full. The reserve spot is used in order for the team at back get a rough count of the reseources and man power. Every helping hand is welcome.
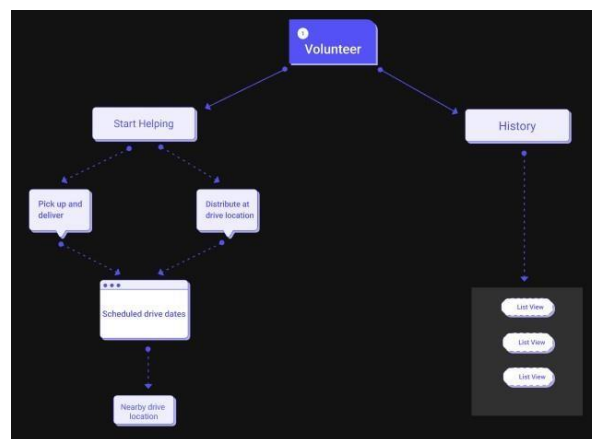

Figure 4.7: Volunteer Flow Chart

Unlike the donor, the volunteer interface is slightly more layered. Like mentioned, the volunteer can choose from the options provided to them.

V. CONCLUSION

Over the years, with the government's incentives, PDS shops, NGOS etc have significantly helped the citizens of India. But as evident from the above data, it still is not enough. We need better plan of action to tackle India's mal nourishment issue. The Good Way tries to reduce food wastage by allowing users to donate them to the under privileged populus. Thus, hitting two arrows with a single target. This application is not going to eradicate the highlighted issues over night and this is a gradual process for the nation and The Good Way is definitely a start.

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