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H.O.P.E- FOOD DONATION SYSTEM

H.O.P.E- An Android Application

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Abstract: This study has been undertaken to investigate food waste is a wide issue in our culture. "H.O.P.E Food Donation App", a new internet- grounded android operation that provides a platform for giving leftover food to all indigent people associations operation of food waste is essential since it can increase our capability to sustain our frugality and terrain. An Android mobile operation is developed that enables businesses to give and partake their food and leavings with people in need after relating the operation of mobile technology to reduce food waste operation. The Food donation operation will try to help the stoner to contribute the food for the NGO's and the NGO's can add their request for donation. The system communicates with the patron and NGO for food donations

***Index Terms* - :** Donor, Hunger spot, Food wastage, Mobile App, Firebase Authentication.

I. INTRODUCTION

An important thing in our world moment is to exclude food waste by reutilizing available food sources within original communities leftover food particulars in caffs, stores and food distribution centres that may be approaching expiration; and any perishable particulars not used in wholeness within their asked period. This is largely significant, particularly during heads similar as the COVID- 19 epidemic. A food donation system is a coordinated trouble that facilitates the collection and distribution of fat or unused food to individualities or associations in need. This system plays a pivotal part in addressing issues of food waste, hunger, and food instability. By turning redundant food from businesses, events, or individualities to those who are less fortunate, food donation systems contribute to reducing waste and promoting social weal. This design focuses on creating an intriguing mobile operation(app) called H.O.P.E. that provides a ubiquitous platform wherein druggies can fantasize available food coffers in their original area and accordingly gain access to food, thereby diving two major issues, i.e. hunger and food waste. As per the knowledge the technology is going advanced and growing day by day. Over main aphorism is to help indigent people. In this mobile app, we've tried to reduce food destruction by giving waste food to people or association who need it. The indigent will add to a request, in case of any leftover food patron have. This request is transferred to the list of benefactors. The Available patron also accept the request and contribute it to the indigent. So, food waste is avoided.

II. OBJECTIVES

- To reduce the quantum of food wasted and being used to the indigent people.
- Engage original Communities in addressing food instability and fostering a sense of social responsibility
- Educate druggies about food waste issue and encourage responsible food operation
- Give a stoner-friendly platform to make food donations effective

III. METHODOLOGY AND IMPLEMENTAION

The" Food Donation App" is an Android- grounded operation developed to combat food waste effectively. However, they can simply enter food details similar as how important volume of food is there; address of patron, time. In this system k- NN algorithm is used. K- Nearest Neighbor is one of the simplest Machine Learning algorithms grounded on the supervised literacy fashion.

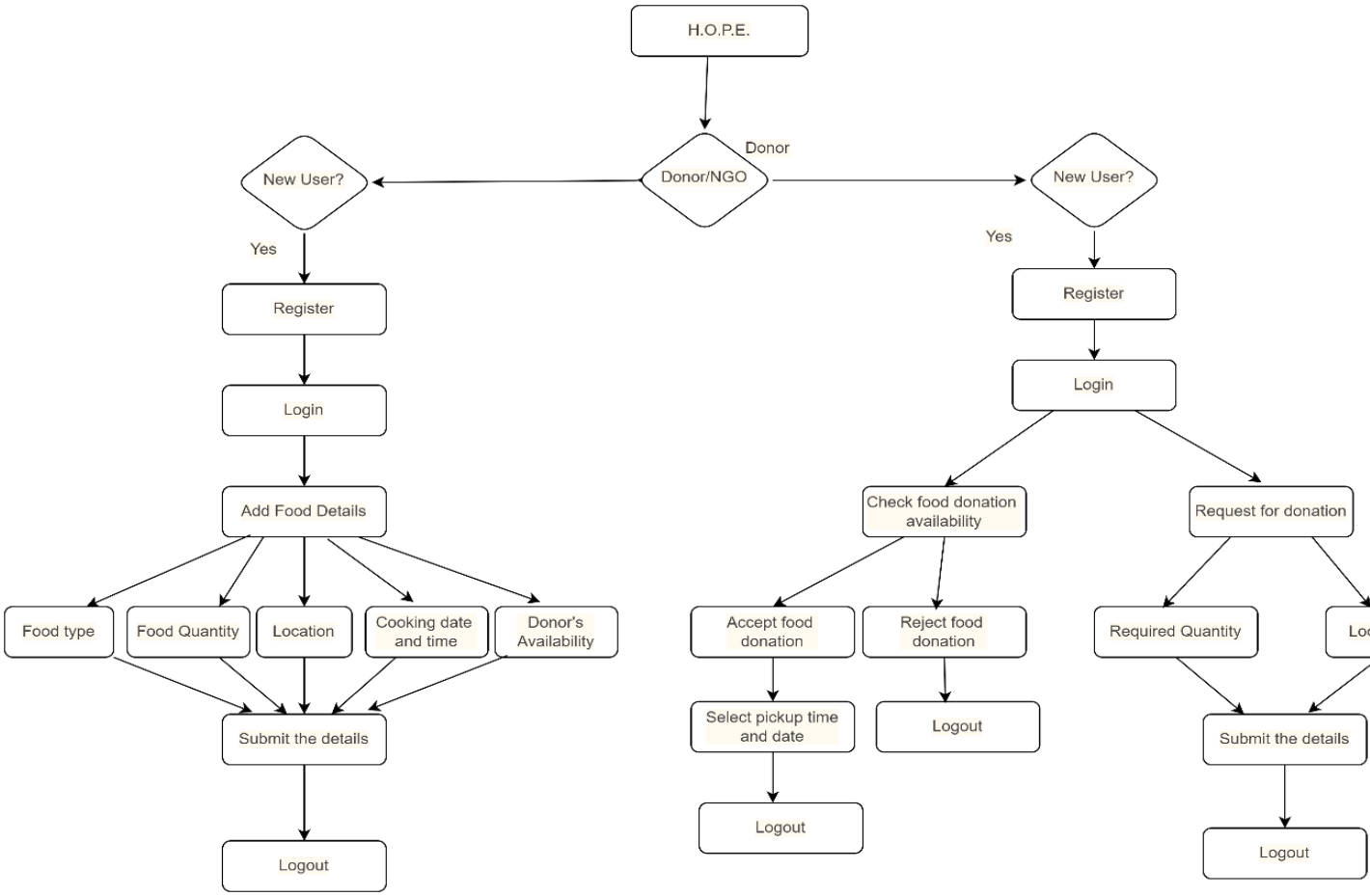

Fig: Flowchart for Food Donation

In this system we're furnishing two modules like " Donor " and " NGO " originally the patron has to register by filling in particular details and opting patron type i.e. regular or occasional after successful enrollment patron will log in into the system with mobile authentication. After successful login patron can also put- up particulars for donation & the request will be transferred to the NGO. A Donor can be any hostel or person who wishes to contribute food & will put up their request to the system this communication will be shown as announcement in the system to other NGO food receiver is an NGO who needs food will check for any food request in the system & can accept that request if demanded. Also NGO will assign the levy after that NGO levy will admit the announcement and the levy will go to the patron position using GPS API for entering food. Then levies will collect the food and announcement will be transferred to the system. Using the KNN algorithm the system will find out the nearest area to contribute food. This way design will fill the gap between food and safe food. The proposed operation shall reduce food destruction and also fulfill other conditions like food particulars of indigent association.

3.1 Algorithm

KNN K- Nearest Neighbor

- K- Nearest Neighbor is one of the simplest Machine Learning algorithms grounded on supervised literacy fashion.
- K- NN algorithm assumes the similarity between the new case/ data and available cases and put the new case into the order that's utmost analogous to the available orders.
- K- NN algorithm stores all the available data and classifies a new data point grounded on the similarity. This means when new data appears also it can be fluently classified into a well-conditioned suite order by using K- NN algorithm.
- K- NN algorithm can be used for Retrogression as well as for Bracket but substantially it's used for the Bracket problems.

3.2 Mathematical Module

- Let S be the Whole system S = I, P, O I- input
- P- procedure O- affair Input(I)
- I = No of stoner, aggregate, NGO Where, NGO – upload food. Procedure(P), P = I, KNN Algorithm,, total count
- For KNN Algorithm • Input words w documents d Where, w be the corpus of words. d is the set of documents. n be the number of words. k be the number of words in the document and are KNN constants. • Affair content assignments z and counts n(d, k), n(k, w) and nk Where, n(d, k) the number of words assigned to pick in document d. n(k, w) the number of times word. • Affair(O)- O = Remaining food supplying to near people

IV. RESULTS AND DISCUSSION

4.1 Following are some results of our project

1. Add Food page:

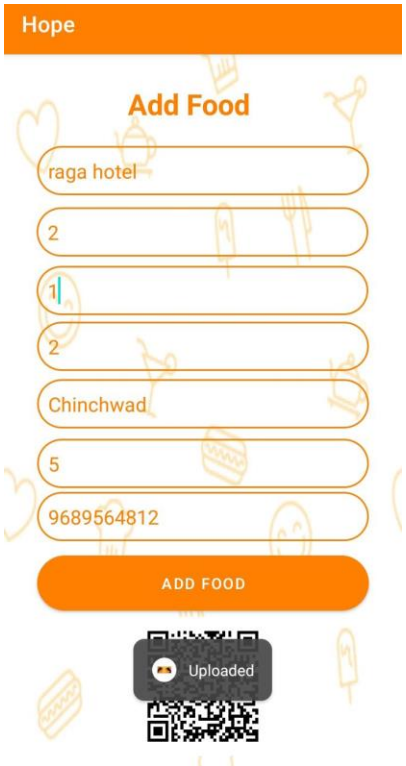

Fig. add food

This is a Hotel Login in which food Donors can log in to the system to add surplus food items they wish to donate. They can provide details such as the type and quantity of food available for donation, address and phone number etc.

2. Show Food page:

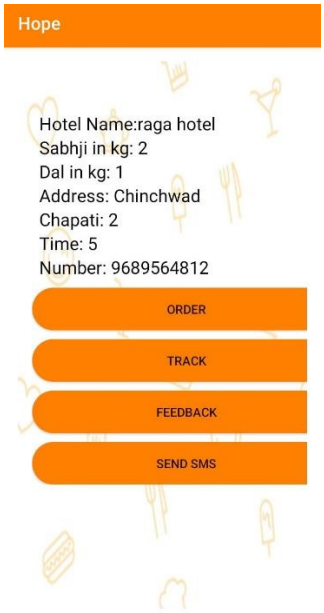

Fig: Show Food

NGOs can log in to the system to view the surplus food items available for donation. They can see details such as the hotel name, type of food, quantity, time and phone number etc.

3. Hotel Feedback page:

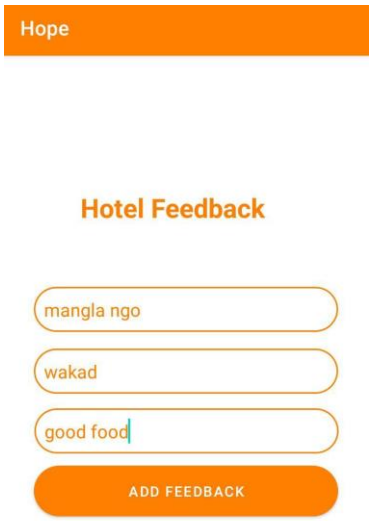

Fig. Hotel feedback

NGOs can use their login to submit feedback to the hotel regarding the food donation program. They can share their experiences with the quality of donated food items, and suggestions for improvement. This feedback helps us ensure that our contributions align with community needs and are carried out efficiently.

IV. CONCLUSION

A well- structured food donation system plays a vital part in addressing the critical issues of food waste, hunger, and poverty in communities. By using the fat food coffers available from individualities, businesses, and associations, these systems can give important- demanded food to vulnerable populations. Through the collaboration of levies, benefactors, and supporting associations, food donation systems can produce a positive impact on society. They not only palliate immediate hunger but also contribute to reducing food waste and promoting sustainable practices. Still, the success of similar systems hinges on careful planning, community engagement, adherence to regulations, and ongoing support. Sweats to enhance public mindfulness, insure food safety, and establish effective distribution networks are vital. Also, it's pivotal to address the underpinning causes of poverty and food instability to produce lasting change. Overall, a robust food donation system, when courteously enforced and sustained, exemplifies the power of collaborative action in creating a more indifferent and compassionate society. The food approach serves to stay down from crack between the Ngo and Donor. The approach serves to give the food waste to the poor individualities who are battling for aliment. Food is presently accessible in large amounts for force to the NGO The approach unite these two, in such a route, to the point that these NGOs can convert the " aliment to be squandered " without bother, and the auberges beaneries party- lobbies discover these food campaigners with no fresh exertion also it'll serve a further noteworthy cause and will be an enormous administration to humanity.

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