Web - based Application for Food Waste Management

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Abstract—**The severe gradual increase in food waste can be seen in recent years. According to Food and Agriculture Organization (FAO), one third of food produced by humans for human consumption is wasted all over the world , which is almost 1.3 billion ton per year, on the another side twenty percentage of people in all over population struggling for food in severe food shortages as per a World Health Organization report. This web based application helps to collect the food from the donors and to distribute to the people in need.This is the basic concept and the main objective of this project.**

Keywords:- Donors, logistics

I. INTRODUCTION

The basic concept of this project entitled "Web based application for Food Waste Management" is to collect the excess/leftover food from donors such as hotels, restaurants, marriage halls, etc and distribute to the needy people through NGOs. NGOs will collect the leftover or excess food from above mentioned venues for the distribution to the needy people.

This web-based application for food waste management can assist in collecting the leftover food from hotels, restaurants, marriage halls, social, political functions& religious events to distribute among those who are in need. NGOs, that are helping poor communities to battle against starvation and malnutrition, can raise a request for supply of excess/left-over food from restaurants through this application. Once the request is accepted, the NGOs can collect the food from the venue for distribution. In this way this web-based app for food waste management will help the donors to reduce food waste and help in feeding the poor and needy people.

II. PROPOSED SYSTEM

In this proposed system proper implementation of website is achieved with various features. In this proposed system, the Donors and NGOs (Non-Governmental Organizations) can find one another easily through the details given by the admin.It contains a separate logistics login who can collect the foodpackets from the Donors and deliver to the Non-Governmental Organizations.

It is helpful for the restaurants to know that how much food they have producedin excess day-by-day. It also helps to donate the leftover/excess food regularly for the needy people.

A. Working principle

This web-based app for food waste management includes four modules such as Admin, Donor, NGO and Logistics (delivery system). Each module includes registration and login to the website. Donor and NGO registrations will be verified by the admin to avoid the scam or fake requests or fake supplies.After verification, both will raise a request for donation and need. Admin can view the requests and supplies and make them communicateby exchanging the details based on the availability, type and quantity of food from the Donor to the NGOs. NGOs can view the restaurants' history and send the request to the restaurants if they need to manage their excess/leftoverfood.

III. SYSTEM DESIGN

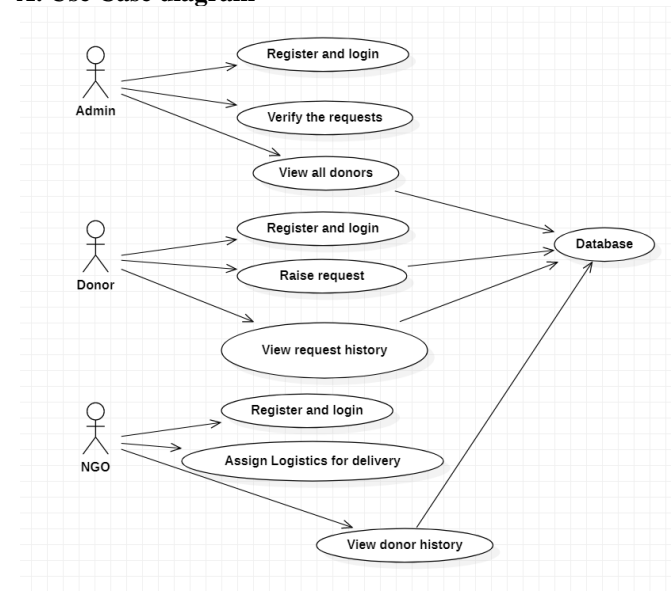### A. Use Case diagram

Fig 3.1 Use case diagram

B. Workflow diagram

Fig 3.2 Workflow diagram

The use case diagram specifies the activities performed by each user and is shown in Fig. 3.1. The workflow of this project is shown in Fig. 3.2.

IV. SYSTEM IMPLEMENTATION

The system comprises of four major modules:

1. Admin
2. Donor
3. NGO (Non-Governmental Organization)
4. Logistics

A. Admin :

1. View the request raised by Donor, NGO and logistics.
2. Accept or deny the request from the users after verify true information or not.
3. Mapping the Logistics with NGO and Donor.
4. View the complaints and suggestions about the requests and can reply it.

B. Donor :

1. Register with name, username, password and some personal information.
2. Login with registered Username and password.
3. Raise the request with details like date, number of packets that can be sent and location.
4. View the raised requests and can view the status regarding whether the request is accepted or denied by the Admin.
5. Can give complaints or suggestions about the website capabilities.

C. NGO :

1. Register with name, username, password and some personal information.
2. Login with registered Username and password.
3. Raise the request with details like date, number of packets needed and location.
4. View the raised requests and can view the status regarding whether the request is accepted or denied by the Admin.

5. Can give complaints or suggestions about the website capabilities.

D. Logistics :

1. Register with name, username, password and some personal information.
2. Login with registered Username and password.
3. Raise the request with vehicle no, vehicle name, driver name.
4. View the raised requests and can view the status regarding whether the request is accepted or denied by the Admin.
5. Can give complaints or suggestions about the website capabilities.

V. EXECUTION

In the home page, the users have to be registered in various roles such as Donor, NGO or Logistics. After registration, they can raise the requests with the availability for donors, requirements for NGOs and vehicle details in their respective logins. Then the admin can login to his environment and can either accept or deny the requests of the donor and the NGO. And also he will map the Donor with NGO along with the logistics, using the mapping feature available in the website.
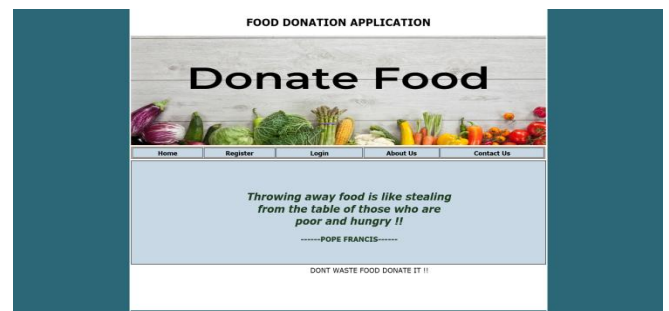

Fig 5.1 Home page of the website

Fig 5.2 User registration page

Fig 5.3 Login page

Fig 5.4 Donor request page

Fig 5.5 View raise (Donor)

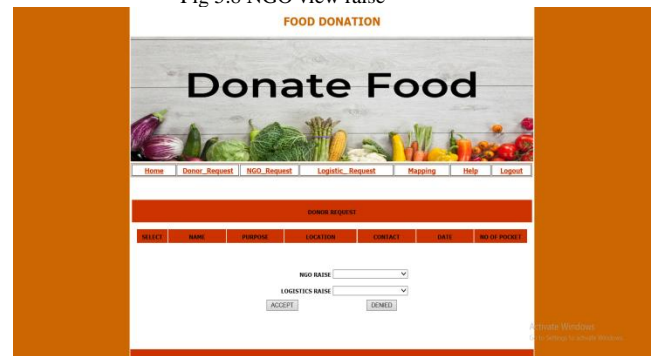Fig 5.6 Status (Donor)

Fig 5.7 NGO request

Fig 5.8 NGO view raise

Fig 5.9 Mapping in Admin login

VI. CONCLUSION

This project entitled "Web-based application for food waste management" presents a complete overview of the implementation of a website that helps both Donors and NGOs. This website helps in collecting the leftover/excess food from the Donors and distributing the same to those who are in need. This web based application works properly and responsive to the users with proper retrieval from the database. Also there is a help menu available in all user logins which is answered by the admin. In this way this website comes with various features for the effective consumption of waste food by the needy people.

VII. REFERENCES

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