Smart Application for Food Donation Using Cloud Computing

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ABSTRACT

Food is necessary for everyday life. The task of food donation is to donate food from various donors and store the data in thedatabase to donate the food to the needy people or orphanage. The problem is not the insufficient number of donors, but finding willing donors at the right time. We want to build a network for peoples who can help each other when peoples are hungry. This application time updates the information regarding the donors where the administrator accesses the whole information about food donation system. A donor, needy people or orphanage will be prompted to enter an individual detail, like name, phone number, and address on thecloud. Food donation Application provides alist of food donors in your area. Only a registered person with awillingness to donate food will be able to access the service. In this application, we are using a GPS technology that will be used to trace the way of donors.

Keyword: Cloud Storage, Food , Webservices, API

I. INTRODUCTION

We want to build a network for peoples who can help each other when peoples are hungry. This application time update the information regarding the donors where the administrator access the whole information about food donation system. A donor, needy people or orphanage will be prompted to enter an individual detail, like name, phone number, and address on cloud.

II. LITERATURE SURVEY

Blood bank app provides the required information in no time and also helps in quicker decision making. Only a registered person, with awillingness to donate blood, will be able to access the service. Authors are using the GPS technology that will be used to trace the way to the blood bank[1]. The blood bank can notify the donor in case of emergency. The blood bank collects the blood from different blood banks and he will inform if less. The application also provides the information about different events so that the user will get information about the organized donation camps[2].

Blood donor application helps healthcare centers to provide the blood as quick as possible when their stocks are insufficient. The application sends periodically actual location information of available donors to themain system and the blood requests to the donors. This optimization makes the system more realistic[3]. In this paper, authors had proposed the use of mobile and web technologies to add another option and medium for emergency response. The proposed method used the current trends in mobile and web technologies for fast and efficient dispatching of emergency units. Proposed system supposed to lessen the response time it takes to respond to emergency events[4]. In this paper, authors had proposed an efficient and reliable blood donor information and management system.This system would be the solution for the problems such as wrong information about donors, misuse by third parties. There would be secure BTS where strangers can't misuse the details of donors and where strangers can become a helping hand for life at an emergency situation[5].

III. HISTORY AND ROLE OF FOOD BANKS IN THE WORLD

Besides the structure in food banks and the staff required, the logistics of a food bank has kept basic: donor advised of his/her intention to donate products to the food bank reaching an agreement with the donor on how the products will be delivered and the benefits that the donor will have (tax exemption). The process to receive goods is performed on the distribution center of the bank where the products will be stored on pallets and later they must go through a classification stage, where products which are unfit for human consumption are discarded. Finally the packaging process is performed. If it is necessary, the storage process can be added (Pipino & Marino, 2012). Once this process is completed, the administrative area of the bank shall inform the foundations of the products available to purchase these products worth about paying 10% - 15% of the actual value product on the market (BAMEX, 2013). In the Figure 2 can be seen a summary of the process.

This network is dedicated to help existing food bank systems, broaden their operations, increase impact, and deliver food to more hungry people. In order to accomplish these goals, the Global Food Network (GFN) establishes and maintains strong partnerships with the global grocery products industry, the broader NGO community, global philanthropic resources, and other institutions focused on reducing hunger and improving nutrition. Additionally GFN is involved in a number of projects aimed to create food banks where they do not exist. This application demonstrates how easily one can leverage IoT to eliminate human intervention and automate manual processes. For a restaurant or large hotel, this can make a big difference. A further enhancement of this app would be to automatically place an order with suppliers when inventory falls below a critical level. The possibilities are endless, and with IBM Bluemix's state of the art data warehousing and the 99.999% reliable messaging infrastructure of PubNub, building such solutions is fast, secure, and highly scalable. Stay tuned for more demos and application use cases using IBM Bluemix & PubNub Data Stream Network.

Fig 1. How does a Food Bank work?

GFN participates in New Food Bank Creation projects in 3 different ways: working as the primary initiator, working with an in-country champion, and working alongside another NGO in order to build new food banks (Global Food Banking Network, 2014c).
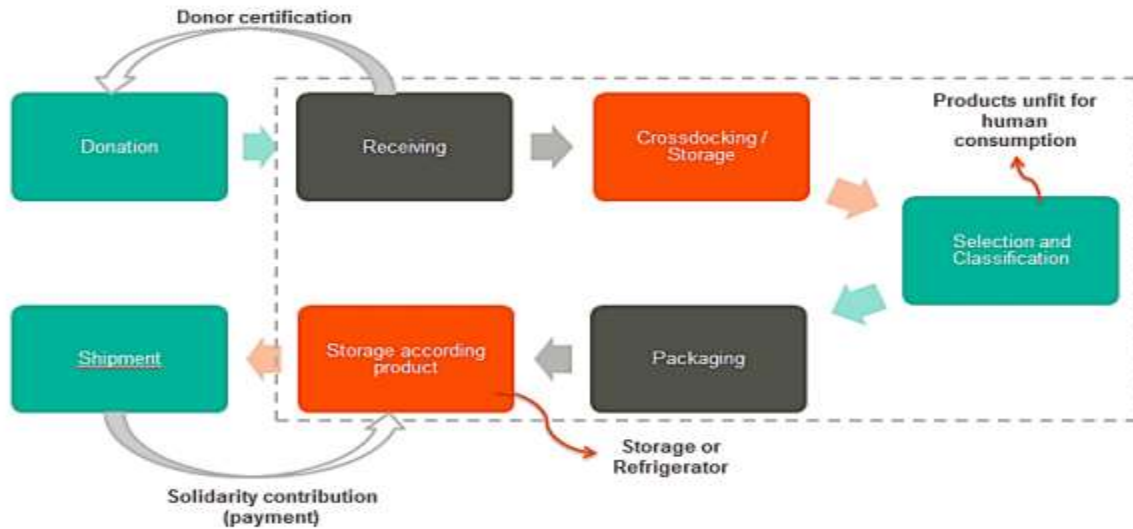
Fig 2. Logistics in a Food Bank
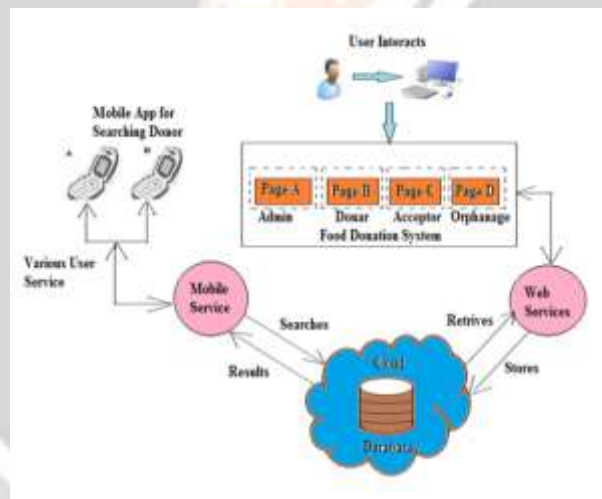
III. SYSTEM ARCHITECTURE:

Fig. 3: System Architecure

Server Setup:

We use our Cpanel Hosting for Server Setup , We are using an API to save and call data from our cloud storage, Food Donar can place his or her remaining food on the app and this data will appear in our cloud then the user can find the donor in their near location using GPS system.

In food donation application, User [Admin, Donar, Acceptor, Orphange and anyone else] will be first register and login with our app using webservice. All user register and login data store on cloud. If user sucessfully login with application, the app get message with on GPS access (Yes/No). If any user want to donate food with anyone else, application finds nearest location path (using shortest path algorithm) and also user set geofence area with specific radius, all nearest location pin on map who uses this application. User can send request to nearest location using googlemap service and according to requirement of food acceptors (any) can send request or share loaction to donar then interacting with donar. According to near loaction and requirement donar donate the food with specific acceptor with finding path.

1.To develop a network where the cost for delivery of food to various places is minimum.
2.For minimizing the wastage of food in daily life that reduces many diseases that make ahealthy young generation.

3.To donate food to theorphanage and needy peoples.
4.By this work orphanage children lives healthy life by providing nutritional support to the body.

IV. MATHEMATICAL MODELS

$S= (G, I, \partial, O)$
Where,
G = GPS
GPS stands for Global Positioning System. The GPS is owned and operated by the U.S. Department of Defense but is available for general use around the world. It is used for tracking the position of users.
$I = (PD, SD)$
It stand for inputs to the system.
PD = PlaceDirectory(Acceptor-place)
SD = SmartDistance(Distance from donor to acceptor)
$\partial = (\partial1, \partial2)$
It stand for relation between two-end entities.
$\partial1 = I1 \rightarrow O1$
I1 = (Hotel, Bank, MarriageHall, Home, Restaurants)
O1=(Phone-no,Address,Name,Reviews,Ratings)
$\partial2$ = Cal
Cal = (R,D)
$R = Routes(R1,R2,R,\ldots,Rn)$
$D = Distance(D1,D2,D3,\ldots,Dn)$
Source = coordinates[Source]
OptimalDistance[Source;C]
C = City|Destination
If(R == Null)
No Route
Min -Distance = min[Source,C]
O2 = (Min - Distance)
$O = (O1 + O2)$

V. Conclusion

We are Introducing this app for food donation hen we have little extra we have to donate that to needy people with this thought we are building this app for food donation. In this, we are adding in future like video calling, voice messaging , security and focus on loyalty and food quality.

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