

## MEDICINE DONATION SYSTEM WITH TRACKING AND DELIVERY CONFIRMATION

**Tarushi Sharma\*<sup>1</sup>, Manvi\*<sup>2</sup>, Loveesh Gupta\*<sup>3</sup>, Dr. Neeta Rastogi\*<sup>4</sup>**

\*<sup>1,2,3,4</sup>Department Of Computer Science And Engineering, Meerut Institute Of  
Engineering And Technology, Meerut, U.P., India.

### ABSTRACT

A noticeable number of people living in extreme poverty still remain high in India. It is becoming challenging for the poor or low-income people to pay for their health purpose. Thus they suffered from various diseases and as a result the death rate is increasing day by day. On the other hand, there are many people who have plenty of leftover medicines even after finishing those medicines consumption. In this paper, we have proposed a medicine distribution web portal, named 'DONMED'. The DONMED is a platform for the donors who want to donate their unused medicines to the poor or low-income people who need those medicines. This system will contribute to reduce the cost for national health services by making the proper use of unused medicines; and to help the poor or low-income people to get better health services. The portal was also evaluated with 16 participants (including doctors, donor, NGO personnel and low-income people) and found that the portal is highly effective, efficient, satiable and useful system. Index Terms—Web portal, electronic health service, ICT, medicine distribution.

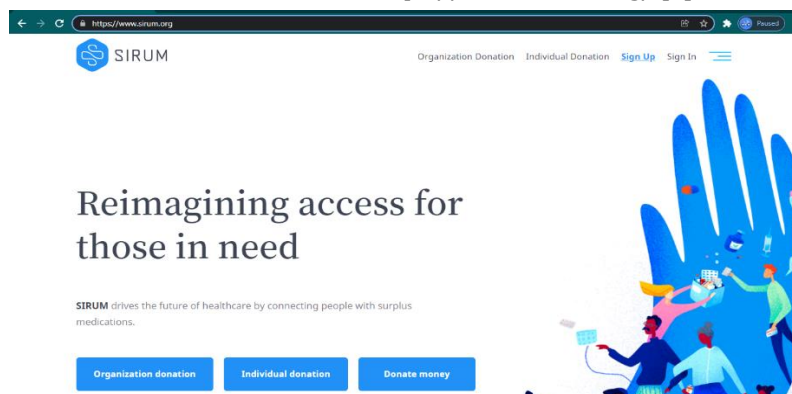
**Keywords:** Don-Med, NGO, Volunteer, Donor, Tracking.

### I. INTRODUCTION

Health is a vital issue for the human race. In recent times, people's concern regarding health issues has increased exponentially. For developing countries, health care is a fundamental need. Due to the scarcity of doctors and physicians, people of the developing countries have less access to health care services. Thus, health care is a very challenging in these countries. India is one of the developing countries. India has expanded the health service systems and infrastructure in the government and non-government sectors. People living above the poverty line are capable to buy many kinds of medicines when needed and may also preserve medicines after their use. In this paper, we aimed to develop a web portal, which can help to collect unused medicines from donors, and to distribute to the poor or low-income people. Authorized doctors can recommend medicines for poor or low-income people using this portal. People living below the poverty line do not want to pay for health care purposes. Moreover "cost of the medicines" is a key concern for them; thus they are unable to buy medicines and suffer from various kinds of diseases, and many people give their lives.

### II. RELATED WORK

There are several websites available on internet like <https://www.sirum.org/> [4]



With almost similar motive the websites at present does have issues that donor can donate medicine but there is no column to see requested medicine by NGOs, there is no tracking system where donor could see whether his medicine has been reached to NGO or not.

And <https://www.udayfoundation.org/donate-medicines-delhi/> [5]



With issue that this website is designed to donate medicine, food, money and whatever you want to donate to help needy people but our website is specially designed to donate medicine and here donor will never know whether his medicine reached the needy people or not.

In above websites, we can donate medicines and needy people can have medicine from there as they have donor and needy people column but in our website we have given additional three features. That is 1 for DONOR, 2 for NGO's and 3 is for VOLUNTEER. The VOLUNTEER column is for people who wants to volunteer willingly in process of delivering medicine from donor to NGO's. Every person that come to the site whether it is donor or NGO's or volunteer, first he/she have to register then login. When a medicine is requested by a NGO, a mail is sent to every volunteer, who want to volunteer can come to volunteer page accept the request. The volunteer then need to verify his goodwill identity and for that we have used QR code that volunteer will scan at donor side and also at NGO's side. Status of medicine is shown to donor and NGO's like till where the medicine has been reached. We have made our website environment friendly so that everyone can easily use it.

### III. WORKFLOW OF THE PROPOSED SYSTEM

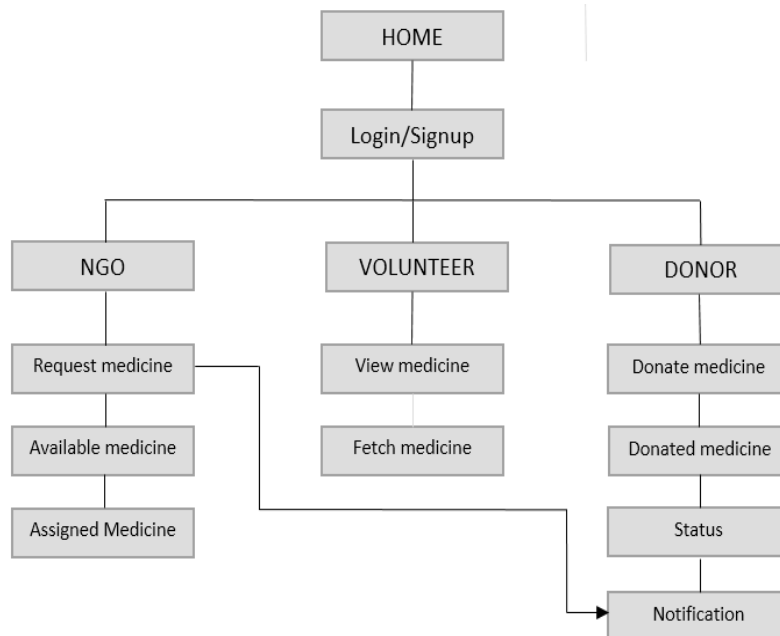


Fig: Different working models of proposed system.

### IV. MODULE DESCRIPTION

#### 1. Donor

##### a. create\_medicine()

This function is used for creating the new request for medicine with all the required fields. If all the fields are correctly filled, then medicine will be created and also logs will be created for the user that “medicine is created by xyz user”.

### **b. donor\_medicine()**

This function shows all the medicine which is created by the donor. We filtered the medicine according to the field from\_user , if the from\_user field contains the user of donor type, then we are showing it in the donor medicine page.

### **2. NGO**

#### **a. request\_medicine()**

This function is used for requesting the medicine by the NGOs to the donors. This has the same functionality as the create\_medicine().

#### **b. ngo\_medicines()**

This function is the same as the function donor\_medicine(). It is showing all the medicine which is requested by specific NGO.

#### **c. assigned\_medicine()**

This function is used for showing only those medicines which are assigned to NGO's.

### **3. Volunteer**

#### **a. view\_medicine()**

This function shows the volunteer to view all the medicine which is not accepted by any volunteer. We are filtering by checking if the from\_user, to\_user is not empty and volunteer\_user field is empty, then it must show to all the volunteers.

#### **B. Assigned\_medicine\_to\_volunteers()**

This function shows the medicine to the volunteer which is accepted by him/her. We are filtering by checking if the from\_user, to\_user, volunteer\_user is not empty, then only it must show to the volunteer.

### **4. Admin**

The administrator is the super user of this application. Only the admin has access to this admin page. The administrator has all the information about all the users, Volunteers, and Available Medicines. This module is divided into different sub-modules.

Admin approves NGO requests because without approval NGO cannot log in. admin select volunteers and assign respective medicines. A. All Users (Manage). B. All NGO's (Manage). C. See all medicines. D. Authenticate Appointments.

### **5. Common Functions**

#### **a. register()**

This function is used to register the new user. This function allows only post requests to register users with their type and other required information. We have created a form, we are able to register only when all the fields are correctly filled.

#### **b. login\_page()**

This function helps users to login with their credentials. This function takes a request parameter of user type, username, password. If the user is present with their credential and type, the code will create a session for the same user and he/she must be logged in to access other pages. If not present, the message must be shown to the user that username or password is incorrect. This function used to log out from the system by deleting the session of the logged in user.

#### **c. donor\_notification()**

This is a common function for all the users which is used for accepting the medicine by all users. If the medicine is requested by NGO. The donor will accept it and if the medicine is created by donor, the NGO will accept it and when from\_user and to\_user field is filled with users, then volunteers are able to accept for delivery from donors location to ngo location. When the donor and NGO accept it, we do the entry of the user to to\_user fields and we will send the email to all the volunteers. If the volunteer accepts it, then we will create the barcode for scanning on the donor's side.

**d. send\_mail()**

This function is used to send mail to all the volunteers, when the medicine is accepted by a donor or ngo. We are sending mail to all the volunteers who are registered in our system.

**V. USED APPROACH FOR QR SCANNER AND MEDICINE TRACKING**

**1. For QR Scanner:**

We have used module named "Qrcode" which generates the QR & feeds data in it.

```

medicine_data = {
    "medicine_name":medicine.name,
    "donor":medicine.from_user.first_name+"_"+medicine.from_user.last_name
}
image = make(medicine_data)
    
```

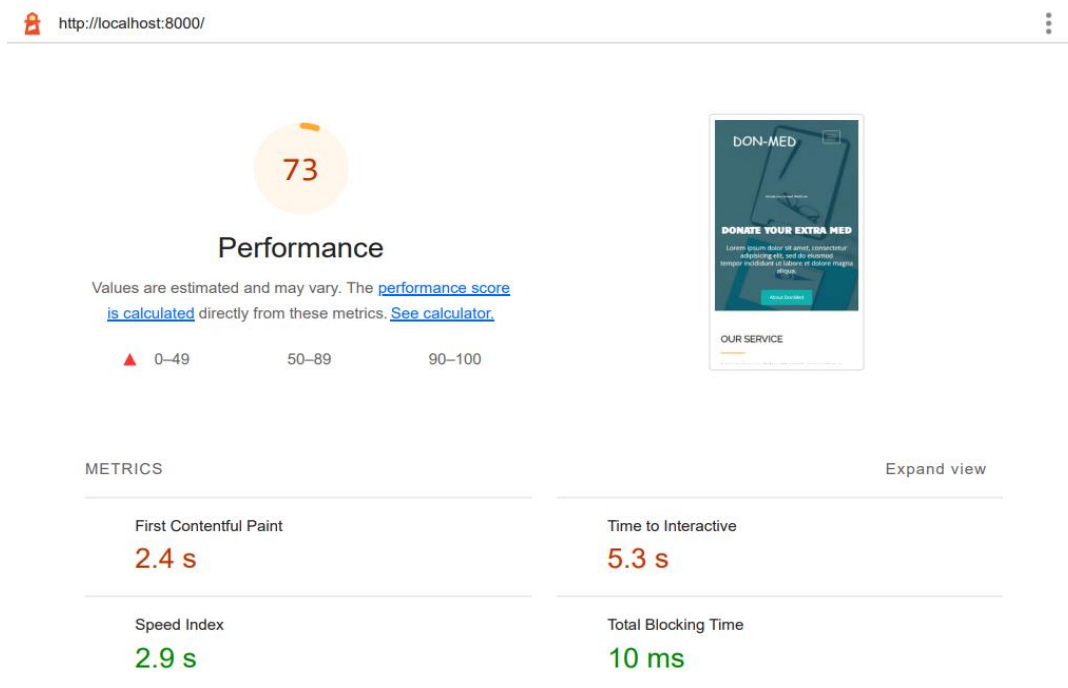
**2. For tracking Medicine:**

```

def logs(request,pk):
    context={}
    medicine = Medicines.objects.get(id=pk)
    logs = Logs.objects.filter(medicine=medicine)
    context['logs']=logs
    context['medicine_name'] = medicine.name
    return render(request,'main_app/logs.html',context)
    
```

**VI. PERFORMANCE ANALYSIS**

To test the Performance of our Local Host Website, we used the google developer tool Lighthouse [6] which calculated the Speed Index and Total Blocking Time which intact results in the good performance of the website. Values are estimated and may vary. The performance score is calculated directly from the metrics in the below image.



**VII. CONCLUSION**

In this paper, it is very evident that Medicine Donation System with Tracking and Delivery confirmation is far better than the existing websites. As the existing websites don't have the medicine tracking and confirmation system embedded.

#### VIII. REFERENCES

- [1] dam Kricher."We save medicine to save lives."sirum.org.<https://www.sirum.org/>.(accessed in 2009).
- [2] Rahul Verma."Donation for public health need" .uday foundation. org.  
<https://www.udayfoundation.org/donate-medicines-delhi/>.(accessed in 2007)
- [3] Google Lighthouse Developer Tool <https://developers.google.com/web/tools/lighthouse>