Web Portal for Donating Unused Medicines

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Abstract*: This project seeks to give unneeded medications and treatments. Unused remedies may be given to a needy person for future use. This software enables users to donate unneeded medications to non-profit organizations. Admin, NGO, and User are the three individuals who make up this organization. Many people in India live below extreme poverty. So, it becomes difficult for those people with low income to pay for their health care and medication. As a result, they live with a number of diseases and as a result, number of deaths increases daily. Apart from that, there are various people who are overdosing on drugs even after they have stopped their medication. Here, we have set up a website for donating medicines to NGOs. This program will help people in donating their unused medicines to NGOs and they can distribute them to people who need them. This site will help in reducing the cost of health services by making better use of unused drugs as well as helping poor or people with low income to get better healthcare. This site is also assisted in assessing the availability of essential medicines for nearby NGO's. The purpose of this project is to donate unused medicines. Unused medicine can be donated to the poor for further use. This application helps users donate unused medicines to NGOs. Administrators manage members by logging in and deleting and blocking users who have provided incorrect or expired medications. The administrator needs to confirm the expiration date of the uploaded image. NGOs help manage inventory and track available medications.*

Keywords: Medicine Donation, NGOs, Distribution of Medicines, Unused, Health Services

I. INTRODUCTION

Healthcare is a fundamental aspect of human well-being, yet many individuals face significant health challenges, particularly in developing countries where access to medical services is hindered by a shortage of healthcare professionals. India, as a developing nation, has made progress in public health initiatives through both public and private sectors. Several key factors affect healthcare access in India:

Population Density: With approximately 1.38 billion people, India has a population density of around 382 individuals per square kilometre.

Limited Medical Professionals: There are only about 1.34 doctors for every 1,000 citizens, according to the World Health Organization (WHO).

Poverty: Around 6.7% of the population lives below the poverty line, defined as earning a mean income of $2 per day, severely limiting their ability to access healthcare services and essential medications.

Additionally, the platform will assist NGOs in monitoring the availability of crucial medicines. Our survey indicates that 86.9% of respondents believe in the need for a reliable platform for donating unused medications and regard our portal as trustworthy. Many are willing to contribute their surplus medicines to support those in need.

People in extreme poverty who use our application are able to afford a variety of necessary medications and retain those medications for future use. Here, our goal was to develop a web application that would aid in the collection of unused medications from donors, as well as offer assistance to those with limited financial resources or who are unable to pay for quality healthcare. Accredited doctors could also recommend specific medications for this site's low-income users.

Because in these competitions, people living below the poverty line do not pay for health care goals. Apart from the "drug dosage" is the most important thing for most of them. Therefore, they cannot afford medicines and suffer from several types of illnesses, and several people donate their lives.

Here, we aimed to create a web site, which could help collect unused, unused medicines from donors through NGOs, and provide for the poor or low-income people and Accredited physicians could recommend medicines for poor or low income people who use this site. We also help monitor the availability of essential medicines for NGO's.

II. LITERATURE SURVEY

Title	Year	Author	Objectives	Key Features	Limitations
Medicine Redistribution and WasteReduction	2023	Lee & Patel	To examine how digital platforms can help reduce medicine waste through improved tracking and distribution systems.	Focuses on optimizing the supply chain for donated medicines to reduce waste.	Does not address donor-NGO matching or medicine validationin-depth.
User-friendly Web Portals for MedicineDonation	2023	Patel, S., et al.	To design a user-friendly web interface for medicine donors	Focused on user-friendly interface, mobile compatibility	Limited geographic reach, lacks real- time updates
Improving Medicine Donation with Block chain Technology	2022	Lee, M., Wang, H.	To propose a secure system for tracking and verifying donated medicine	Secure tracking of donated medicines	High implementation cost, complex setup
NGO Participation in Medicine Donation via Digital Platforms	2021	Gupta, A., Sharma, P.	To explore the role of NGOs in medicine donation through online portals	NGOs can manage donations, user-friendly interface	Limited donation tracking features
Web-based Solutions for Medicine Redistribution	2020	Khan ,R., et al	To study the effectiveness of online platforms for redistributing medicine	Simple web interface for medicine donations	Lacks features to prevent expired medicine donations

III. METHODOLOGY

This system will gather drugs from persons who have recovered entirely from their illnesses and no longer require them, as well as from organizations and individuals who want to give pharmaceuticals. Following the collecting of these drugs, they will be transferred to non-governmental organizations (NGOs) who will inspect them and, if authorized, would distribute them to the people directly for free.

The system will consist 3 entities:

1. Admin
2. NGO
3. User

Admin:

Admins must first log in, then input their email and password, after which the email and password must be verified. Login will be successful if the administrator enters a legitimate email address and password; else, the process will be repeated. After logging in, admins will be able to add NGOs, then review the NGO/User list, verify prior transactions, and collect medicine.

NGO:

NGO's must log in if they are already registered, or they must first register. Then, after completing the registration procedure, the NGO can log in using their email and password. If all of the information is right, the NGO will be able to

login successfully; otherwise, the process will be repeated. After successfully logging in to the NGO, you can check the medicine list and make a request for medication

USER:

First, if the user is already registered, he or she should login; otherwise, the user must login with credentials for the first time. After that, the user must enter their email address and password, after which their credentials will be verified. The user will be able to login successfully if all of the credentials are accurately filled out. After successfully logging in, users can contribute medicine, check their donation history, and provide feedback.

At the same time, the recipient can receive the medicines from the NGOs in person by showing the official prescription given by the doctors for the treatment. Alternatively, the patient needs to call a doctor that is registered with the program and if the patient is unable to pay for the medication, then the doctor may request the medication through the portal and suggest him to visiting the NGO for the reference to get medicines. Therefore, the recipients do not need direct access to the portal that overcomes their power as well as technology issues related to smart devices and internet usage. Prior to dispatching medication to recipients, the administrator concerned keeps a check on the availability of the prescribed medication.

NGO's and pharmacists or providers need to create an account on our web portal where the system will verify the account and the information provided by the provider and NGOs. During the registration, name, address, registering email ID and password of the user will be mandatory. The conceptual system is shown in figure 1.
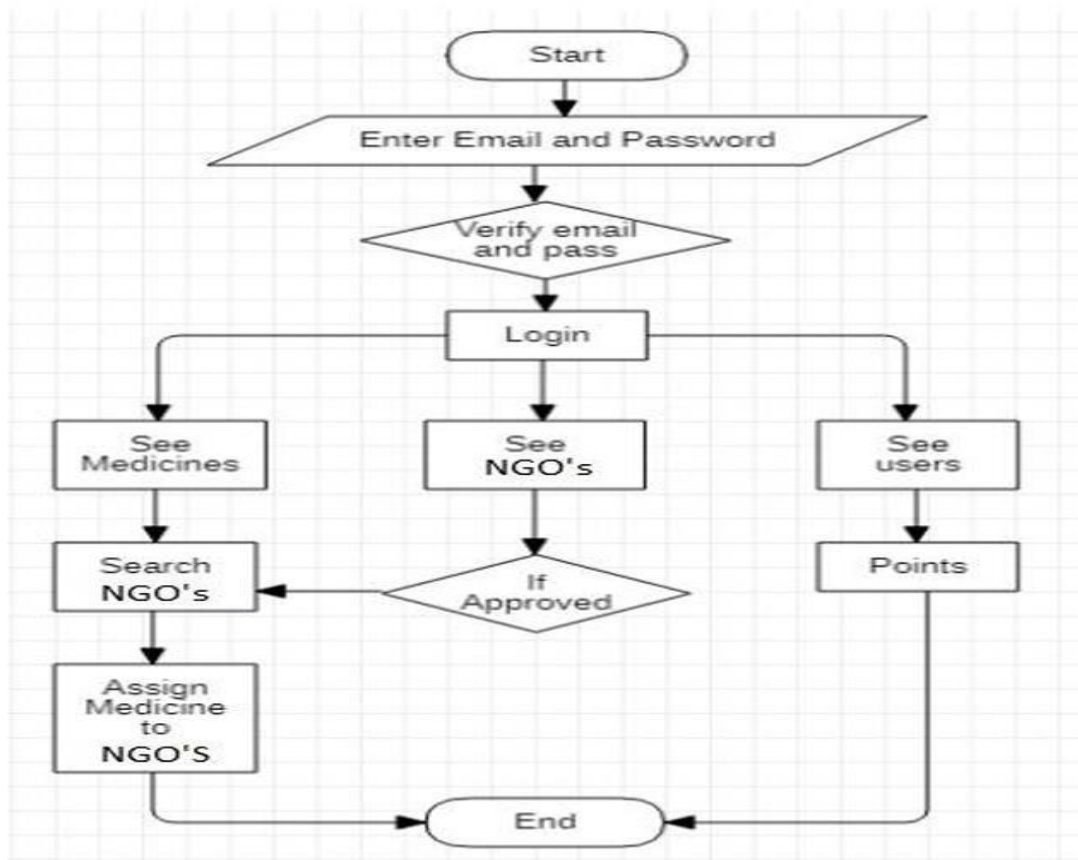

Figure 1 Flowchart

IV. SYSTEM ARCHITECTURE

We have divided the development phase into 3 parts.

- Server End and Database
- Security Features
- User Display

Server End and Database:

In the beginning, we have prepared an Entity Relationship diagram (ER) database recipient's as per the requirement of the portal & then uses the database on the MongoDB server interface with sufficient security barriers to prevent the external unauthorized access. For privacy & security of our portal, we used two distinct credentials (administrator and user) so that, any other person cannot access or update the existing control panel configuration. The control panel verifies the delivery of the program from the user record and keeps the entire system regulated & up to date

Security Features:

All the users are required to register first, to access the portal services and then the registration would be successful only after verifying & validating the necessary details & the required information. we have used the traditional HTTPs authentication that authorizes a strong user encrypted password which is verified by the email id with an encrypted quote. Session authentication based user login and access will be validated until the existed user will log out from the portal or the system is unavoidably removed after the exact time the session is over. Therefore, to enable these kind of major security features, we attempt to make our web portal more reliable & secure for the existing users. We have also used the input validation for the better and genuine registrations, like no one can enter the email address without using any domain name or no one can enter his contact number in less than 10 digits.

User Interface:

In our web portal, the secure access is provided to customize user information where the content of the portal varies according to user standards (Donor/NGO or receiver). The portal will display the content as per the login information whether the user is Admin, NGO or Public.
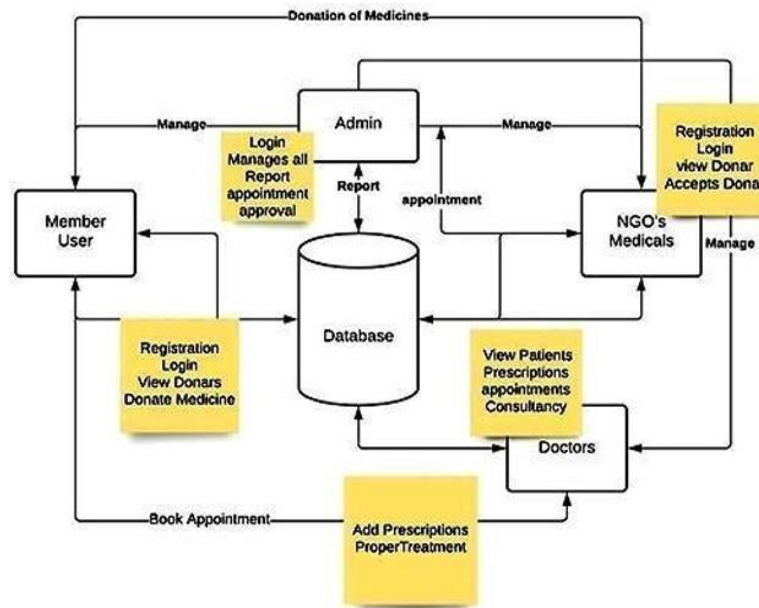

Figure 2 System Architecture

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It has the compatibility of certain devices and browser in a user-friendly method to make it easier to access the real user. In the development lifecycle, we have used the MERN stack technology i.e. MongoDB, Express, React & NodeJS etc. MongoDB is a document oriented database, ExpressJS is an open source web app framework written in JavaScript to create fast, scalable, and robust web applications, ReactJS is a JavaScript library for creating UI. We have used MERN due to the flexibility and scalability, and It also allows easy modification and data retrieval.

V. CONCLUSION AND FUTURE SCOPE

The modern era has started. People from all socioeconomic backgrounds and levels of literacy are now concerned about their health. The fact that aware poor people cannot devote much time to their health care routine due to their low income is a source of sadness. NGO's and Our Website show remarkable effort by giving needy people free medical care. However, in the majority of cases, people receive treatment rather than pricey cures. As a result, they no longer see any value in this fantastic project. This essay offers a succinct outline of the planning and creation of a website that will be very successful and make a significant contribution to getting health services to those in need. This website has helped to cut down on remedy waste. The modern era has begun. Privileged and unprivileged, literate, and illiterate people are now aware of their own health. It is a matter of sorrow to be conscious poor people cannot pay much attention to their health care because of their low income.

By providing free care to those who cannot afford expensive medications, NGOs demonstrate incredible drive. However, they typically receive treatment but not the pricey prescribed medications. Therefore, in the big picture, this amazing act of providing free treatment to the people is useless because they would have to pay for the expensive prescribed medications on their own. The plan and enhancements of the online portal that we propose are briefly outlined in this essay. This portal will be very successful and bear a tremendous commitment to obtaining the healthcare services for these indigent people. We anticipate that this portal will help reduce medication waste to a greater extent.

This project or this online medicine donation portal has the potential to develop into a complete application in the future, offering all medical services directly on the portal.

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