



MedDonor: An Online Medicine Donation Platform

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Abstract— This study's objective was to create and assess a web-based platform for sharing unwanted pharmaceuticals. According to estimates, up to 30% of all medicines may go unutilized, which makes the issue of unused medication a serious concern in many nations. This not only wastes resources but also prevents those who need it from getting access to life-saving medicine. This problem is addressed by the proposed platform, which allows people to advertise and search for specific prescriptions, link donors and users of unwanted medication, and schedule pick-up or delivery. A methodology using both qualitative and quantitative data collection techniques was used to perform the study. The technology increased the effectiveness and transparency of medication redistribution, according to the study's findings.

Keywords—*MedDonor—Medicine Donor, Web portal, Unused medicines, Donation, health, low cost.*

INTRODUCTION

We could not survive without medicines, which are an essential element of our life. In actuality, they enable existence! Unfortunately, we throw away medicine in every nation on earth. There are a number of variables that contribute to drug waste in the general population. Patient deaths, drug deterioration, multiple reasons for non-adherence, and hoarding out of concern for a medication shortage

The MedDonor project aims to decrease drug costs and increase access to high-quality healthcare at a reasonable cost. The project aims to lower the cost of medications, offer cheap access to healthcare, and support the growth of India's pharmaceutical industry. The platform, which will be created as an app using React, is intended to link donors with patients, physicians, and pharmacies.

Healthcare professionals will use the MedDonor ecosystem as a tool to cut out the middleman in the pharmaceutical industry and give their patients access to low-cost pharmaceuticals..

The project aims to lower the cost of medications, offer cheap access to healthcare, and support the growth of India's pharmaceutical industry. The suggested approach aims to make it possible to use ICTs to bring NGOs together and provide a more efficient means of organising their shared operations. The benefits of this system include It assists the needy with their medication. Many in need will receive treatment. Utilizing all available resources will enable access to all member universities operating concurrently in various fields.

METHODOLOGY

Existing System

Medical products and medications may expire. To collect, properly dispose of, and return unused medications and medical supplies to hospitals and other organisations that might donate them to charities or use them in community outreach, certain pharmaceutical corporations and pharmacies have put in place take-back programmes.

The application was not customized to the needs of the user. It lacked guidance modules like Donation and collection. The application did not have any modules that help users get familiar with the app. All the modules lacked relevant information, they were too simple and basic. [1]

We have found existing systems to be outdated. The WHO guidelines are related to donations related to drugs and medicine, which we have not updated in at least 10 years. They also are not standardized and are not affiliated with NGOs; making it difficult for us to manage our donation options. We decided to select a new medical with whom we will partner, which will be able to support all received donations. Some of the methods of utilizing the unused medicines:

Medicine bank or pharmacy:

For the purpose of gathering, storing, and distributing unused medications to individuals in need, several organisations set up medicine banks or pharmacies.

Medicine drop-off points:

People can drop off their unneeded medications at designated locations in some regions for safe destruction or redistribution.

Bartering and trading:

Some organizations facilitate the bartering and trading of unused medicine between individuals, organizations, and hospitals to redistribute it to those in need.

Direct giving programs:

Some organizations have set up programs to directly give unused medicine to patients in need, by working with medical professionals to identify patients who could benefit from the medicine.

Proposed System

Redistribution of unneeded medication refers to the procedure of gathering, confirming, and dispersing medicines that the original users no longer require. This procedure can be carried out using a variety of techniques, including drug banks, repackaging and relabeling, and take-back programmes. Redistributing unneeded medication aims to decrease prescription waste and increase access to necessary drugs for low-income groups who might not otherwise be able to buy them.

Assuring the medication's safety and effectiveness is one of the main difficulties in redistributing unused medicines. This can be done by going through a thorough verification process that involves looking at the medication's packaging, expiration date, and storage conditions. Redistributing unneeded medication also requires making sure that legal and ethical requirements, such as patient privacy and medication safety, are followed.

The proposed web-based platform for redistributing unused medications addresses these challenges by connecting donors and recipients of unused medications, allowing individuals to list and search for specific medications, and enabling the arrangement of pick-up or delivery. The platform also includes a verification process to ensure the safety and efficacy of the redistributed medications.

The use of a web-based platform for redistributing unused medications offers several advantages over traditional methods. For example, it is easier to match donors and recipients, and it can be more efficient and transparent. Additionally, by using a web-based platform, it is possible to increase the access to medication, reduce medication waste and improve transparency in medication redistribution.

It is important to note that Redistribution of unused medicine is not only beneficial for low-income population but also for the environment and the society as a whole. It also promotes social responsibility and helps to address the health inequality.

As a result, redistributing unneeded medication via a web-based platform presents a viable approach for resolving the issue of wasted medication, enhancing accessibility to necessary medications, minimizing drug waste, and encouraging social responsibility. Your health issues are no longer a burden for you. By donating your unwanted medications before they expire, you can now receive the greatest treatments, medications, and care. Since not everyone has the resources to pay for pricey medications,

Med Donor aims to help those in need and provide the necessary medications for free..

Our portal aims to be accessible to users with the newest features being introduced right now. Users would feel more comfortable donating and receiving medications from persons who are willing to donate their unwanted medications before expiration if the portal has a simple navigation system that is user-friendly.

This portal's database and structure are trustworthy and coordinated. We presently provide users login, registration, and moderating services, as well as medication donations that are handled under admin's supervision. However, in the future, it can be enhanced to give the user access to a more dependable and accessible app and consultation through our application, along with a feature that allows doctors to upload prescriptions. The user can benefit greatly from it.

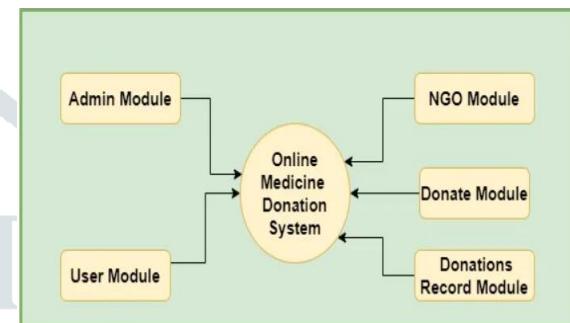


Figure 2: Flow Diagram [2]

IMPLEMENTATION

System Architecture

With MedDonor, it's super easy to find medical needs in the medical centers nearby. By simply logging into MedDonor, you can check for available medicines and book it conveniently from your house. MedDonor is an online service that provides safe and efficient access to medicines at a cost low-income people can afford.

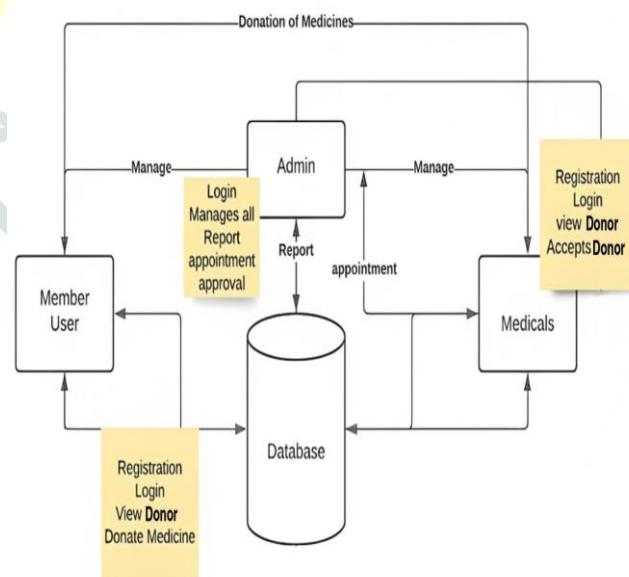


Figure 3: System Architecture [4]

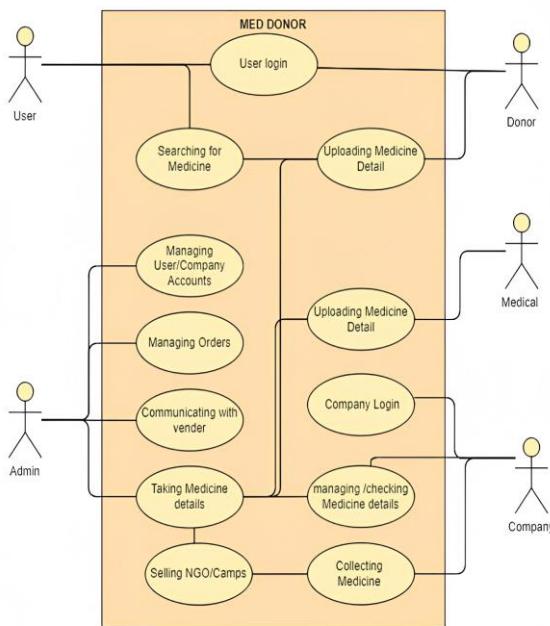


Figure 4: Use Case Diagram

Working

Some features and working of our web portal, MedDonor:

User registration:

Users must register with the web portal as the initial step in the procedure. They include basic personal information including their name, address, and phone number, as well as, if appropriate, details regarding their medical licence or certification.

Listing and Gathering medicine:

Following registration, individuals can list any excess or unused medications on the website. Giving specifics about the medication, such as its name, dose, expiration date, and quantity, is part of this. Users have the option of starting or joining donation camps where they can donate medications. Directly obtaining medicine from medicals, specifically medication that is about to expire, is an additional method of medicine collection.

Verification:

To verify that the listed medications are safe to use, the web gateway authenticates the listings. This entails making sure the medication has been stored appropriately and checking the expiration date.

Matching with recipients:

Following the verification of the medication, receivers who are in need of that specific medication are matched with the medication. The online platform combines demographic data with medical needs to match donated medications with the right patients.

Delivery:

The web portal makes it easier for the recipients to receive the donated medications. This can be accomplished in a number of ways, including shipment and local medical care.

Tracking and reporting:

The web portal keeps track of the medication donation process, including the quantity and type of medicine supplied, the beneficiaries' racial and ethnic makeup, and any user feedback. Reports that can be distributed to stakeholders are then produced using this data.

Security and privacy:

A variety of security measures are put in place by the online site to safeguard user privacy and personal data. This includes stringent access controls, secure login, and encryption of critical data like passwords.

RESULT AND DISCUSSION

We performed a survey in order to determine the end user's needs and requirements for the online portal. We also followed specific protocols for obtaining needs; the first step was to complete an online poll, after which we spoke with a few people about the condition. In order to conduct the survey efficiently, we set up a Google form where respondents could select their situation-based inquiries and, if they so desired, add information about their profession. This way, we could determine how frequently respondents visit doctors or make appointments with them, as well as how frequently they take their unused medications, allowing us to plan our survey appropriately.

Finally, we mailed our survey to every student at the college. By gathering fundamental information about medical donations, the aim of this survey is to ascertain the opinions of the local population.

CONCLUSION

The study has demonstrated that the suggested web-based platform for redistributing unwanted prescriptions is a successful method of resolving the issue of unused medication. The technology aims to decrease drug waste by increasing the efficiency and transparency of medication redistribution. The survey results showed a high degree of satisfaction among platform users, demonstrating the platform's friendliness and simplicity.

However, the study also pointed up areas that may use more development, such as the requirement for a more thorough verification procedure and raising awareness of the platform among potential donors and beneficiaries. These results show the web-based platform's ability to increase low-income populations' access to medication and have significant consequences for the field of medicine distribution. Additionally, this study emphasises the significance of additional investigation on medicine donation and the requirement for the creation of efficient procedures for dispersing leftover pharmaceuticals. Overall, the suggested web-based platform is a viable option for tackling the issue of unneeded medication and enhancing access to necessary prescription drugs.

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