K. J. Somaiya College of Engineering, Mumbai-77
(A constituent college of Somaiya Vidyavihar University)

Somaiya Vidyavihar University

Online Unused Medicine Donation for NGOs

iMeds

Submitted at the end of semester IV in partial fulfilment of requirements

Of Bachelors in Technology in Computer Engineering

by

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Batch 2021 -2025

K. J. Somaiya College of Engineering, Mumbai-77
(A constituent college of Somaiya Vidyavihar University)

Certificate

This is to certify that the MINI PROJECT report entitled **Online Unused Medicine Donation for NGOs** submitted **Ishita Garg, Anusha Goswami and Riya Hemani** at the end of semester IV of SY B. Tech are bona fide record for partial fulfilment of requirements for the degree of Bachelors in Computer Engineering of University of Mumbai.

_____ _____

Guide Head of the Department

Date:

Place: Mumbai-77

K. J. Somaiya College of Engineering, Mumbai-77

(**A constituent college of Somaiya Vidyavihar University**)

Certificate of Approval of Examiners

We certify that this Mini-Project report entitled **Online Unused Medicine Donation for NGOs** is bona fide record of Mini project work done by **Riya Hemani, Anusha Goswami and Ishita Garg** during semester IV.

This Mini project work is submitted at the end of semester IV in partial fulfilment of requirements for the degree of Bachelors in Technology in Computer Engineering of University of Mumbai.

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Internal Examiner 1

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Internal Examiner 2

Date:

Place: Mumbai-77

K. J. Somaiya College of Engineering, Mumbai-77

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DECLARATION

We declare that this written report submission represents the work done based on our and/ or others' ideas with adequately cited and referenced the original source. We also declare that we have adhered to all principles of intellectual property, academic honesty and integrity as we have not misinterpreted or fabricated or falsified any idea/data/fact/source/original work/ matter in my submission.

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Chapter 1: Introduction

1.1 Problem Statement

There is a significant amount of unused medicine that goes to waste every year due to expiration, over-prescription, and other reasons. At the same time, there are many people who cannot afford or access the medicine they need. Hence, we aim to develop a platform/ web-portal to address this problem where donors can easily donate their unused medicine to NGOs who can distribute it to those in need.

1.2 Motivation

A scenario in the real world could involve an individual who has been prescribed medication for a chronic condition but no longer needs to take it. The individual may have leftover medication that is still in its original packaging and not expired. Rather than discarding the medication, the individual may choose to donate it to an NGO that collects unused medication to distribute it to the people who cannot afford to purchase it themselves. Having volunteered at an NGO has inspired us to choose this issue because thousands of NGOs regularly run out of generic medications. Many poor people who do not afford to buy their own medicines, with help of this website people can get the treatment and medicines to cure the respective diseases, the unused medicine will be utilized. We hope that by completing this project, we will be able to address these organizations' needs.

1.3 Scope

We are developing an online website portal using web development features to cater the NGOs medical needs.

1. Users can register themselves on this system by submitting their necessary details. Once registered the users can donate the medicines by providing accurate medicine details to NGOs.
2. The system will maintain a record of donated medicines.
3. Users can also connect to their nearby NGOs and contact them.

1.4 Tech Stack

Front-End: HTML, CSS, Bootstrap, JavaScript (input-validation)

Back-End: PHP (for integration), SQL (for database)

API: Google fonts API-

https://fonts.googleapis.com/css?family=Poppins:400,500,600,700&display=swap

Chapter 2: Literature Survey

In the following part, we look into the research papers written for different portals or organisations which are available for medicine donation to the underprivileged or help create access to medicines for the underprivileged.

Link for reference:
https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-022-08022-1
The above research paper is a study on improving access to essential medicines in India through the popularization of generics. The study focuses on the effectiveness of India's People's Medicine Scheme (PMBJP) in two districts of Maharashtra, with a mixed-methods approach that includes both quantitative and qualitative components. The study examines the availability, affordability, and acceptability of PMBJP essential medicines through surveys and in-depth interviews. The study finds that PMBJP has improved access to essential medicines by making quality generic medicine more affordable for the population. However, there are still challenges related to availability and stock-outs of certain medicines. The study also highlights the importance of addressing issues related to awareness and trust among the population regarding generic medicines. Overall, this study provides valuable insights into efforts to improve access to essential medicines in India through the popularization of generics.

Link for reference:
https://www.researchgate.net/publication/323166422_GiveMed_A_Webportal_for_Medicine_Distribution_among_Poverty-stricken_People
This research paper is about GiveMed, a web portal designed to distribute medicine to poverty-stricken individuals. The paper provides background information on the development of the platform, including related works in ICT-based health services and electronic health services for low-income or unprivileged people. The authors propose GiveMed as a solution to the problem of unused medicines by creating a platform for donors to donate their unused medicines to those in need. The portal was evaluated with 16 participants and found to be highly effective, efficient, satisfiable, and useful. The paper concludes with a discussion of the implications and future work for GiveMed. By

conducting a thorough literature survey, we gained valuable insights and ideas that can helped us design and develop a successful online portal to create a connection between donors and NGOs.

Chapter 3: Project Design

3.1 System Design

The online portal for donation of unused medicine to NGOs is designed to address the problem of medication waste and improve access to essential medicines for vulnerable communities. The system context includes individual and organizational donors who can donate their unused medicines through the portal, NGOs who can receive the donated medicines, and the portal itself, which serves as a platform for connecting donors with NGOs.

The background to the project includes research and feasibility studies that indicate a significant number of unused medicines are discarded each year, which can contribute to environmental pollution and wasted resources. The prototyping exercise involved testing the user interface, donation process, and communication features with potential users and NGOs. The feedback received during the prototyping phase was used to refine the design of the portal and improve its usability and effectiveness.

Overall, the online portal for donation of unused medicine to NGOs is a feasible and impactful solution to the problem of medication waste and poor access to essential medicines. The architecture of the solution is designed to provide a user-friendly platform for connecting donors with NGOs and improving access to essential medicines for those in need.

Before implementing the UI for our portal, we conducted a literature survey where we collected data on pre-existing products and decided a basic UX structure for our project. Following the modern design trends in mind, we designed the UI on an online graphics design software- 'Figma'. We followed the minimalistic, modern neuromorphic design language for our project, making it more user-friendly and intuitive to use for all users.

3.2 Requirements

3.2.1 Software Requirements

1. Web Development Framework: We would need a web development framework to develop our online portal's front-end and back-end components.
2. Database Management System: We would need a database to store information about the

medicines that are being donated, such as their names, quantities, and expiration dates as well as information about the donors and recipients. We are using the relational database management system like MySQL.

3. Collaboration tools: We would need collaboration tools such as chat, video conferencing, and project management tools to facilitate teamwork amongst members.

3.2.2 Hardware Requirements

1. Stable Laptop: A laptop with-
2. Minimum i3 processor system
3. Minimum 4GB RAM
4. Minimum 100 GB ROM
5. Network infrastructure: We would need a reliable and fast network connection to ensure that our online portal is accessible to users at all times.
6. Backup and disaster recovery infrastructure: We would need backup and disaster recovery infrastructure to ensure that user data is secure and protected in case of a disaster or hardware failure

3.3 System Architecture

The architecture of the solution includes multiple layers, including the presentation layer, application layer, database layer, and integration layer.

The presentation layer is responsible for providing a user-friendly interface for donors and NGOs to interact with the portal.

The application layer includes business logic and data validation code to process user inputs and connect donors with NGOs.

The database layer stores data related to users, medicines, and NGOs. The integration layer is responsible for connecting the portal with external systems such as email and messaging. The integration layer is designed to be scalable and flexible, and it can be customized to meet the specific integration requirements of the portal. We have used PHP for the database and integration part of our project. For our presentation and application layer, we have used HTML, CSS, Bootstrap and JavaScript.

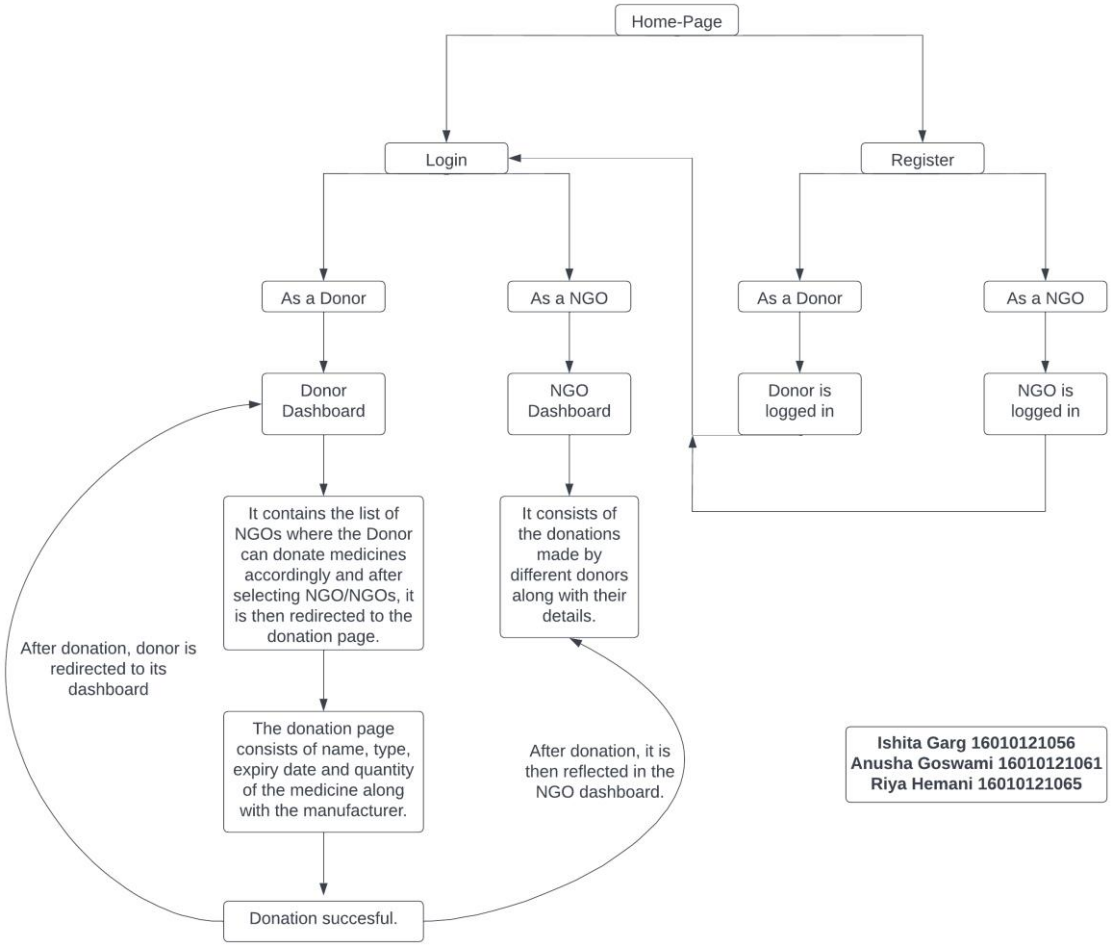

Fig. 1: System Architecture

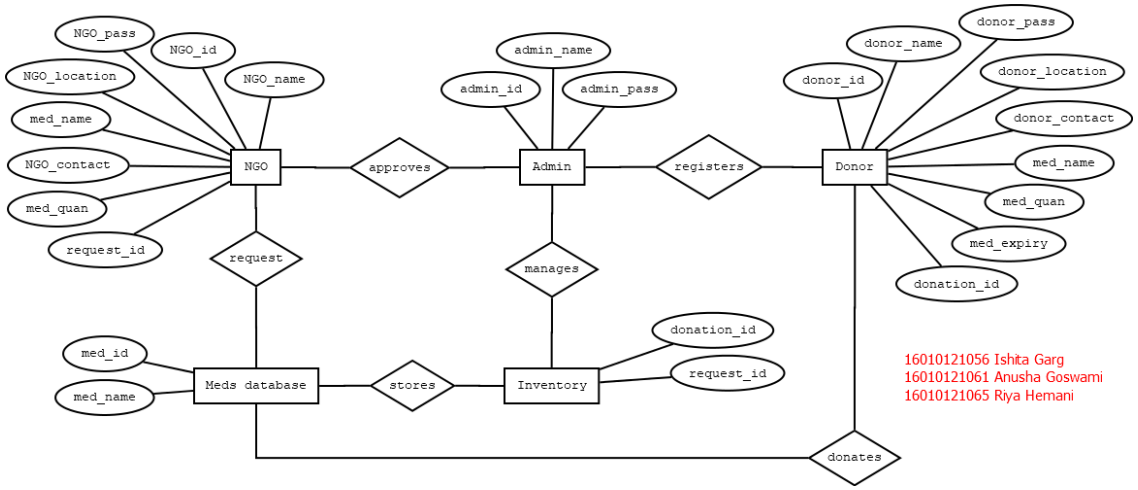

Fig. 2: E-R Schema

3.4 Software Project Management Plan

Task	Member 1 Ishita Garg	Member 2 Anusha Goswami	Member 3 Riya Hemani
UI:			
Design		X	X
Coding	X	X	X
Database:			
Table design	X	X	X
Query design	X		
Coding	X		
Program:			
Log-In System	X	X	X
User-NGO Communication	X		X
Input Validation	X		X
Donation Form	X		
Profile System		X	X
Testing:			
Testing approach	X	X	X
Front End positioning		X	X
Database creation and insertion operations	X		
Input Validation	X		X
Presentation			
Report and Documentation		X	

Chapter 4: Implementation

4.1 Proposed System Model

User Management System: The system should have a user management system that allows users to register, log in, and manage their profiles. This system should be secure, and user information should be kept confidential.

Donation Management System: The system should have a donation management system that allows users to donate unused medicines. The system should allow users to input information about the medicines they are donating, such as the name of the medicine, the quantity, and the expiry date.

Search and Matching System: The system should have a search and matching system that allows users to search for available medicines based on their location and medical requirements. The system should match the donor's location with the recipient's location and search for the medicines available in the proximity of the recipient. This will help in making the medicine donation process more efficient.

4.2 Functions Implemented

1. User Registration: Allow donors and NGOs to register on the portal with their basic details like name, email, contact information, and address.
2. User Login: Allow registered users to log in to the portal securely using their email and password.
3. Donation Form: Providing a form for donors to fill in details about the unused medicine they wish to donate, including the name of the medicine, expiry date, quantity, and condition.
4. User Profile: Allow users to view and update their profile details, including their name, email, contact information, and address. The donor dashboard enables users to make donations to NGOs that suit his/her conveniences and also view the NGO details.
5. Donation Statistics: Provide a dashboard for NGOs to view the donations they have received, such as the total number of donations.

Overall, the portal should be designed to provide a user-friendly and secure platform for donors and NGOs to connect and facilitate the donation of unused medicine.

4.3 Test Plan

Test case	Description	Intended result	Actual result	Completed by
Front End Design	Test whether the webpages are coded as per wire-frame design.	Front end was coded using HTML CSS, JavaScript and Bootstrap.	The coded webpage exactly resembled the design intended and matched the template.	Anusha and Riya
User-NGO Communication	NGO can contact Donor after getting donation request.	NGO is able to contact the Donors displayed on its dashboard.	Communication is successfully established.	Ishita and Riya
Profile-System	Creating dashboards for the NGOs and Donors.	NGO is given the list of donations made and Donor is given a list of NGOs to donate to.	Dashboards were created and implemented successfully.	Anusha and Riya
Database creation and insertion operations	Check whether the database accepts valid entries and the insertion operation works	The database was created using SQL and PHP for login, donation and profile system.	The database successfully accepts valid inputs and the entries are visible.	Ishita
Input Validation	Check whether the form accepts only valid inputs	Email and telephone numbers should match the proper pattern	Page gives an alert if the wrong pattern is inputted by the user. So, data is validated correctly	Ishita and Riya

Donation Form	Check whether the medicines entered by the user is successfully shown to the NGO.	The donations entered by the donors should be reflected on the NGO's dashboard as well as the database.	The donations entered by the donors are reflected on the NGO's dashboard and database.	Ishita and Riya

4.4 User Interface

a) Homepage

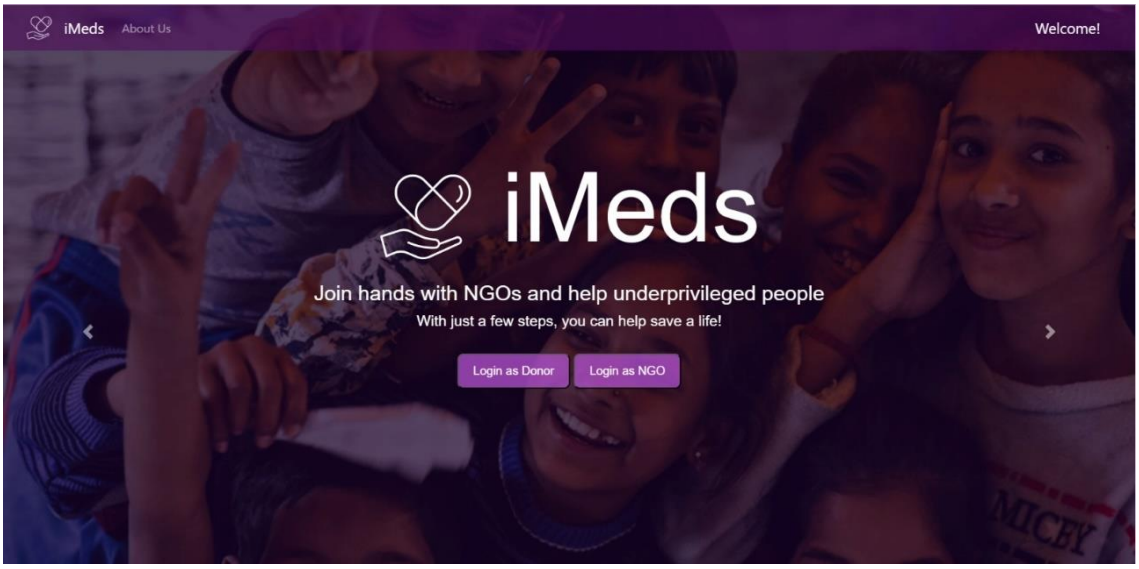

Fig. 3: Home Page- Carousel

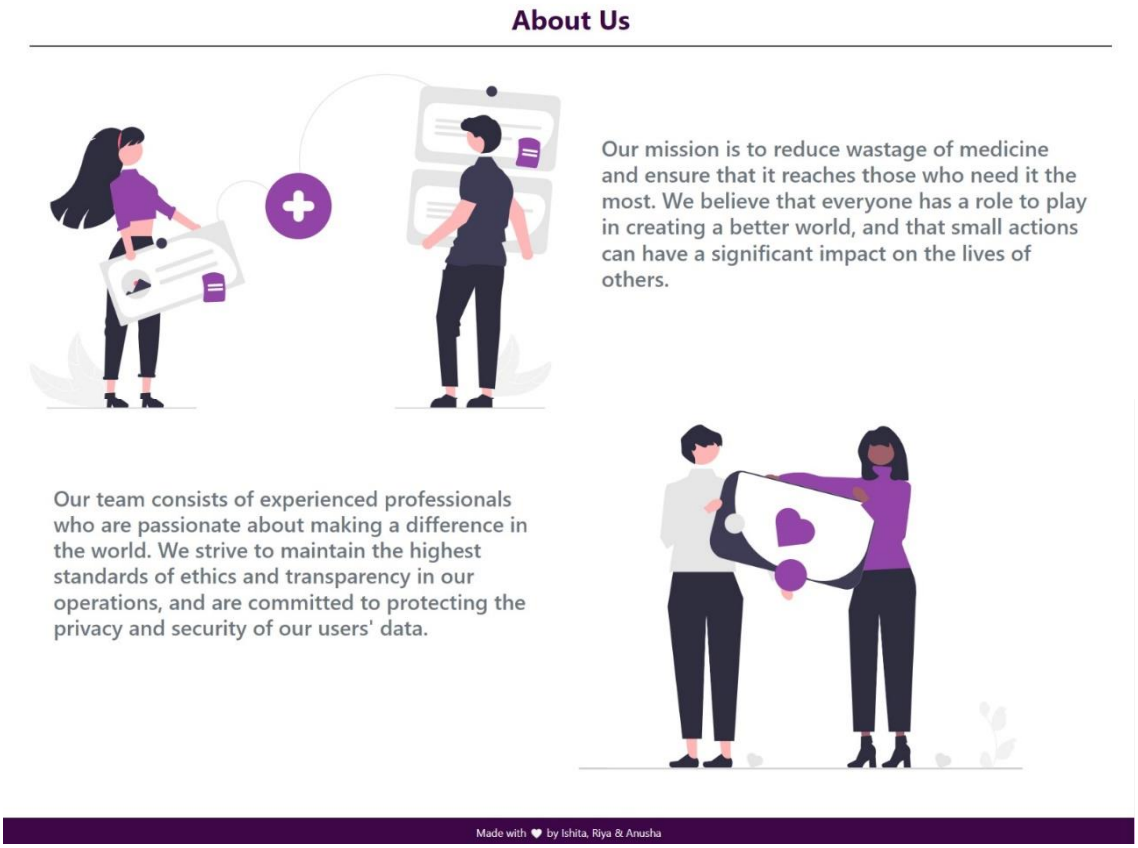

Fig. 4: Home Page- About Us

b) Sign-up page (Donor)

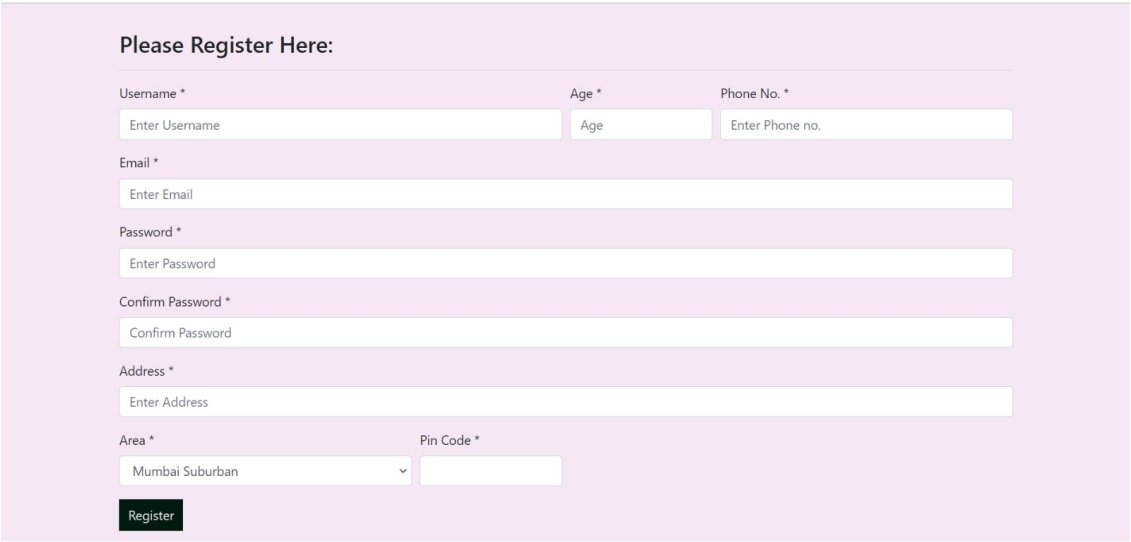

Fig. 5: Donor Sign up Page

c) Sign-up page (NGO)

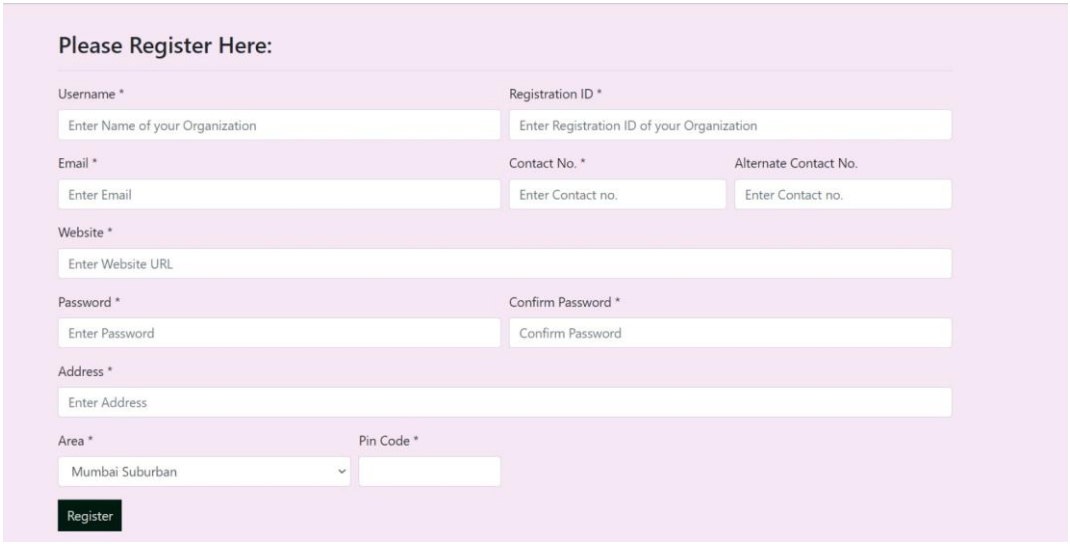

Fig. 6: NGO Sign up Page

d) Login page (Donor and NGO)

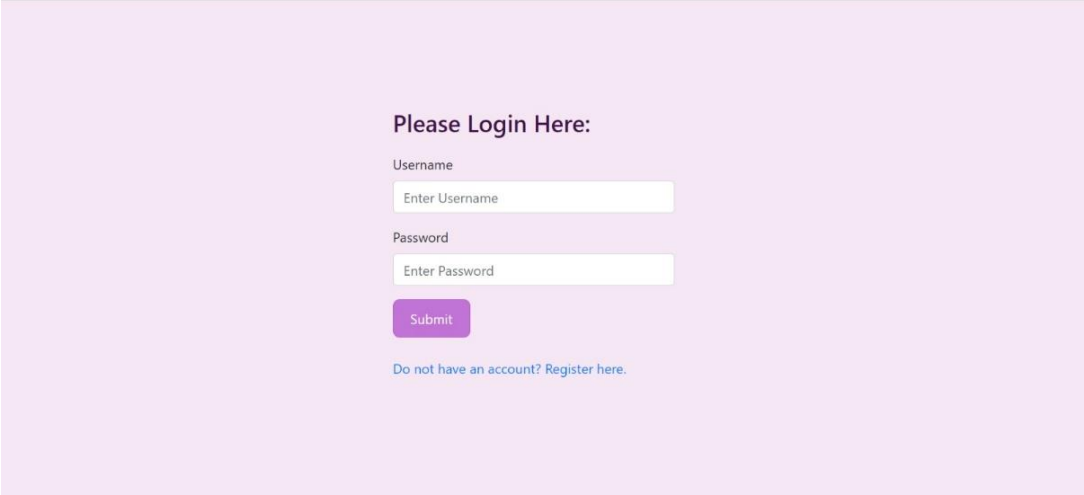

Fig. 7: Login Page for NGO and Donor

e) Donation page

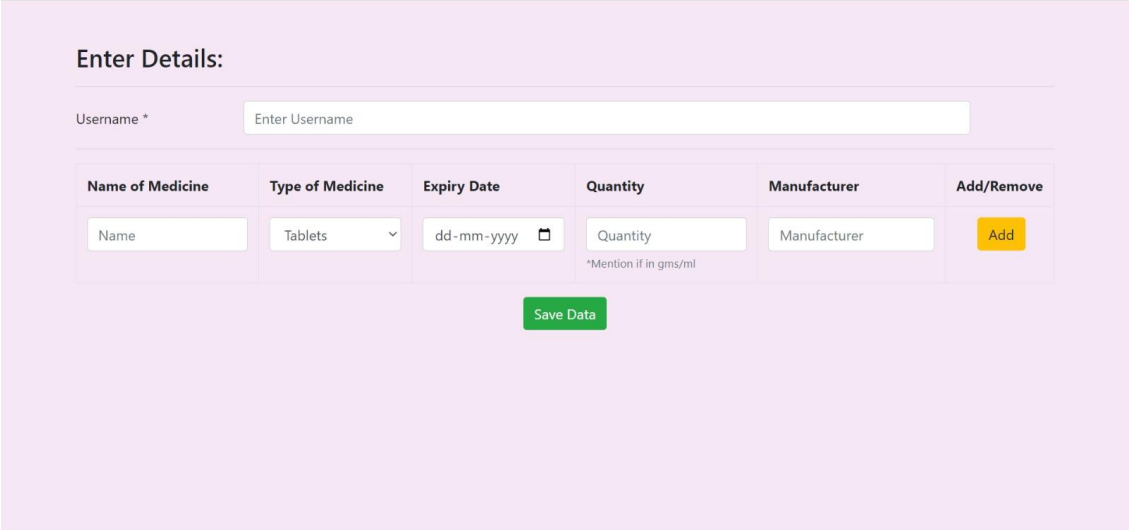

Fig. 8: Donate Medicines Page

f) Dashboard (NGO)

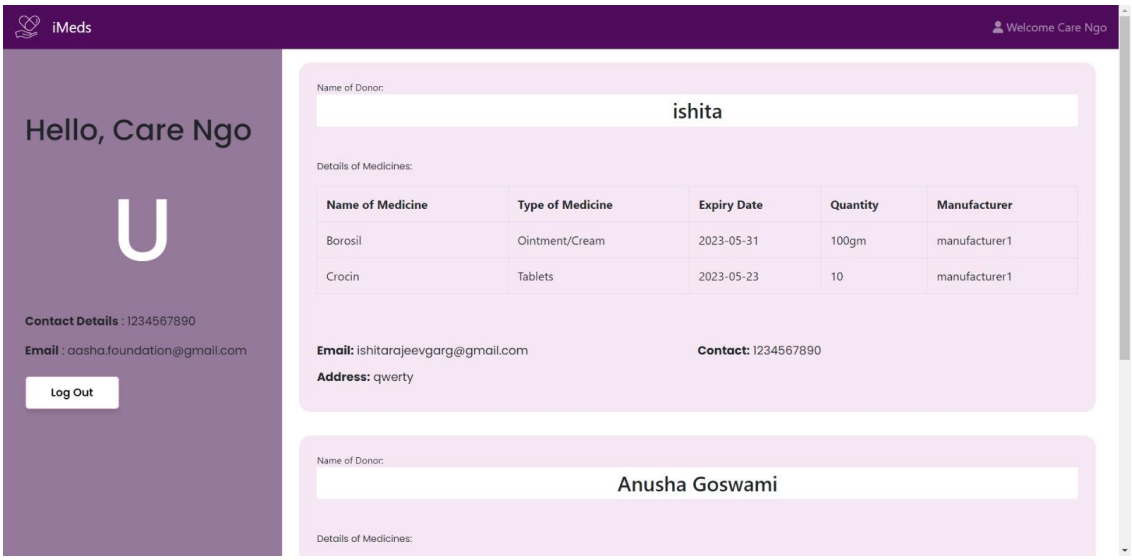

Fig. 9: NGO Profile Dashboard

g) Dashboard (Donor)

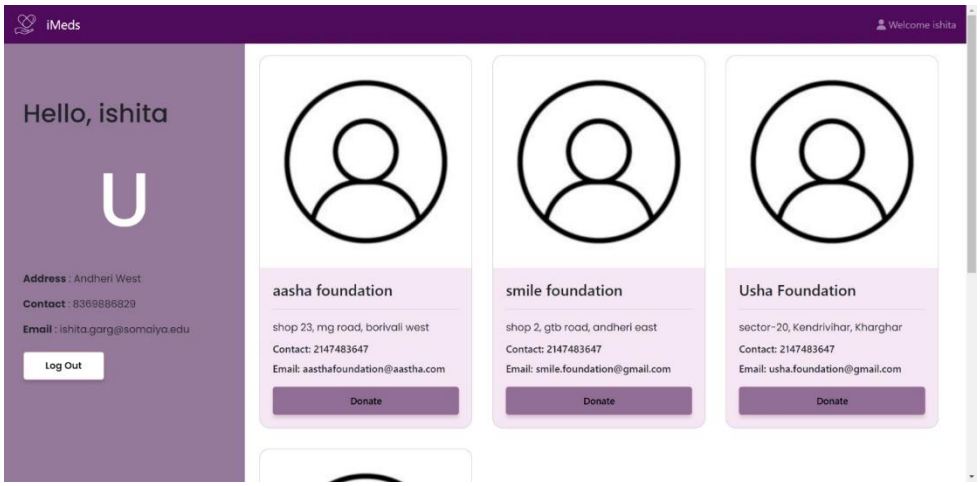

Fig. 10: Donor Profile Dashboard

4.5 GitHub Implementation details:

GitHub and git were used for the purpose of version control and collaboration. A final commit was made at the end to push the completed project onto GitHub. A readme file was also created explaining the team details, demo, usage, and steps to replicate the project on your local system.

The GitHub link to our Mini Project repository:
https://github.com/riyahemani/mini-project.git

Chapter 5: Conclusion and Further Work

In conclusion, the development of an online unused medicine donation portal is an important initiative that has the potential to address the growing need for affordable medicine and improve the health outcomes of people in need. The portal allows users to donate unused medicines to NGOs, who can then distribute them to people in need.

The portal is built using PHP and MySQL for the backend, and HTML, CSS, JavaScript, and Bootstrap for the frontend. The use of these technologies ensures that the portal is user-friendly, secure, and efficient. The portal has various features, like donation forms, user authentication, and a dashboard for NGOs to view donations. These features are designed to enhance user experience and encourage more donations.

Overall, the online unused medicine donation portal is a significant step towards improving access to affordable medicine and promoting better health outcomes for all.

The future scope of the project includes:

1. Donation Statistics: Improving dashboard for NGOs to view statistics about the total number of donations, the total value of donations, and the most common types of medicine donated.
2. Email Notifications: Send email notifications to donors and NGOs to inform them about the status of their donations, new donations made, and any other important updates related to the portal.
3. Integration with healthcare providers: The portal can be integrated with healthcare providers to enable them to prescribe and recommend the use of donated medicines. This increases the reach of the portal and encourage more people to donate medicines.
4. Artificial Intelligence (AI) integration: AI can be used to analyse the data generated by the portal to identify patterns and trends. This improves the efficiency of the portal and enable it to provide personalized recommendations to users.
5. Mobile application development: A mobile application can be developed for the portal making it more accessible and convenient for users. This increases user engagement and encourage more donations.

These initiatives will help improve the efficiency and impact of the portal and enable it to reach more people in need.

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