

Share The Spare

Rethinking unused medicine management

Guide: Mandar Rane

Anuja More | 166450011

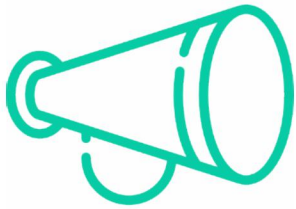
IDC School of Design, IIT Bombay

Problem statement

Objective

- Maintaining healthy balance in the society and encouraging common people to stretch a helping hand for poor citizens of the country through donation.
- To control unsafe medicine disposal.

Initial ideas



Advertising
campaign



Prescription
design



Awareness
short film

Secondary research



1. *Medicine Baba, New Delhi*
2. *Helping Hands Donation Box, Hyderabad*



DROP UNUSED MEDS, BOOKS, TOYS HERE

Helping Hands Donation Box set up near Kushaiguda Police Station will provide space for donors and hand it over to the needy

- **Express Features**

Helping Hands "Donation Box," a novel initiative by Zone info Media supported by Lions Club ECIL - Elite, was launched in near Kusaiguda Police Station this week. Donors can give unused (but usable) medicines, toys, clothes, books, stationery, and any other utilities which will reach the needy through this initiative.

The initiative seeks to evoke community response on sensitive issues like health,

poverty, concern for the under privileged who require a helping hand from the larger society. Principal architect of the initiative, S.Kushal, says, "We often come across people who want to donate unused items in their house to the needy but don't know where to donate. Based on our earlier experiences we thought of having a point which will act as a sensitising agent to the society."

So he set up the box after deliberating the installation process with government bodies like the Kusaiguda police and the Lions

Club ECIL - Elite who supported the initiative

The Lions Club ECIL-Elite District Governor Lion Dr Sunaina Aminha inaugurated the box and appreciated the initiative. ACP Syed Rafeeq said that their department would extend their maximum support to the activity.

The youth promised support to Zone Adds, the Implementation partner. The ad agency has been promoting "Donate Un-used medicines" since May 2015.



Primary research

Contextual enquiry

- Narration of critical incidents, issues, events faced by the users.
- It helps in understanding the user's perspective and the degree of impact.
- It helps to eliminate biases from the researcher's end.

Primary research

Semi-structured interviews

- A pre-determined set of open questions.
- It Helps to understand how interventions work and how they could be improved.
- It allows respondents to discuss and raise issues that you may not have considered.

USER STUDIES

65

Users

4

Hospitals

3

Pharmacies

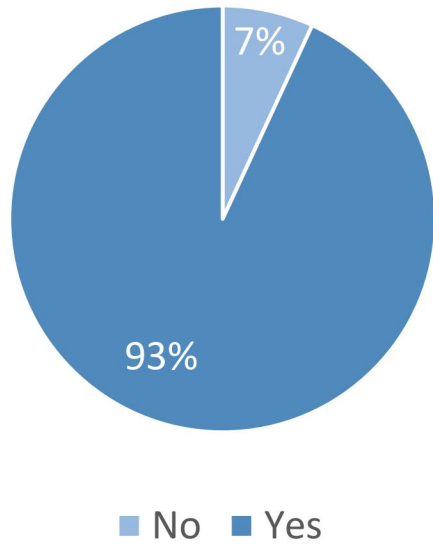
2

Doctors

1

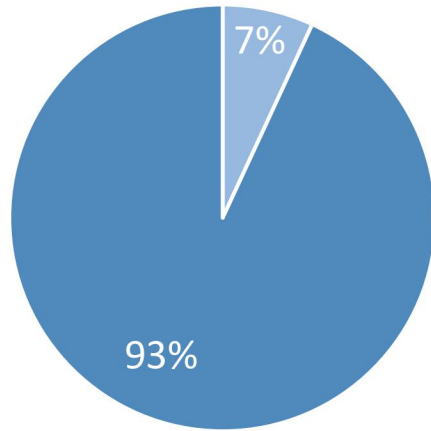
Charitable
trust

Stockpiling and discarding medicines



More than 90% people accept the fact that they stockpile and discard medicines knowingly or unknowingly.

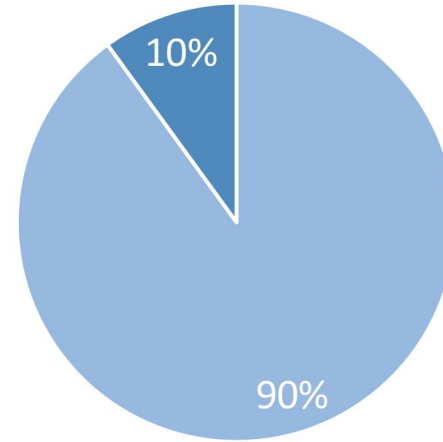
Stockpiling and discarding medicines



■ No ■ Yes

More than 90% people accept the fact that they stockpile and discard medicines knowingly or unknowingly.

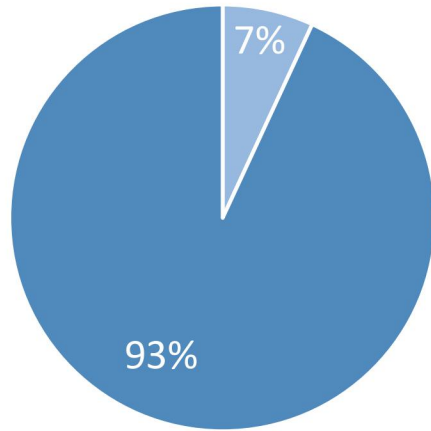
Discarding medicines is not good and medicines can be put to better use.



■ Yes ■ No

90% of the people who can easily afford medicines accepts that, it is a waste of money to throw medicines. It can be better planned.

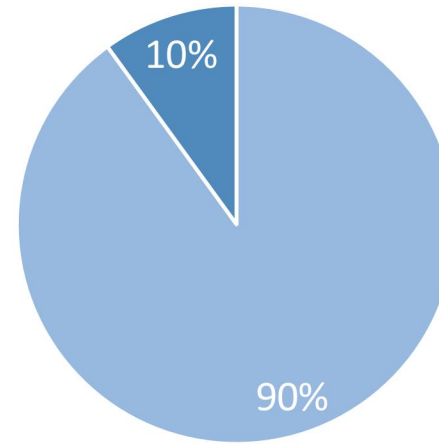
Stockpiling and discarding medicines



■ No ■ Yes

More than 90% people accept the fact that they stockpile and discard medicines knowingly or unknowingly.

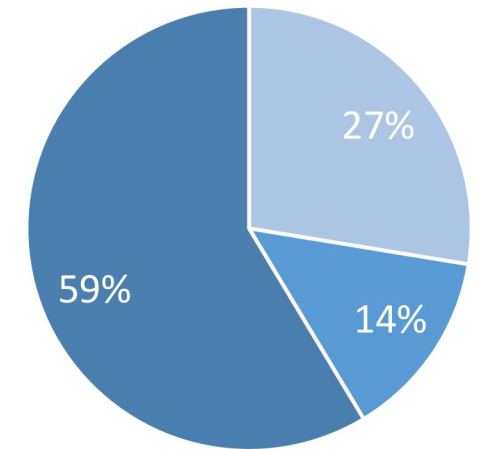
Discarding medicines is not good and medicines can be put to better use.



■ Yes ■ No

90% of the people who can easily afford medicines accepts that, it is a waste of money to throw medicines. It can be better planned.

Acceptance of donated medicines

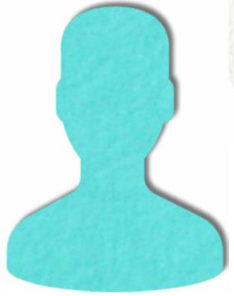


■ Yes ■ No ■ Maybe

Only 27% people agree to accept medicines from others.

73% people are unsure about accepting medicines due to trust issues.

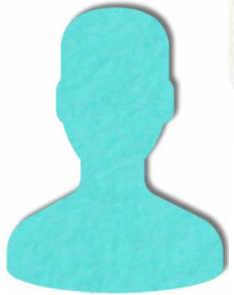
USER STORIES



I skip medications as I can't afford both food and medicines.

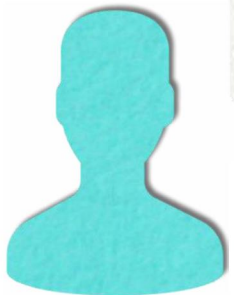
A patient at K.E.M. hospital sharing how he has lack access to medicines due to poverty.

USER STORIES



I skip medications as I can't afford both food and medicines.

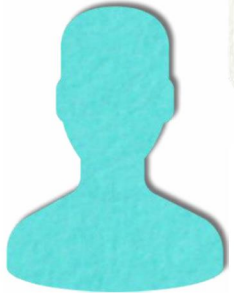
A patient at K.E.M. hospital sharing how he has lack access to medicines due to poverty.



70% amount of hospital overall expenditure is being spent on buying medicines itself.

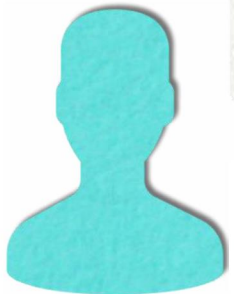
Administrative officer at Central Hospital, Ulhasnagar talking about the huge expenses, hospital spending to buy bulk medicines.

USER STORIES



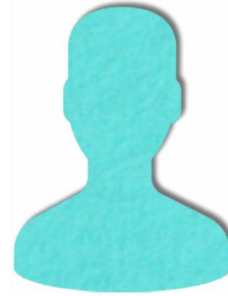
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A patient at K.E.M. hospital sharing how he has lack access to medicines due to poverty.



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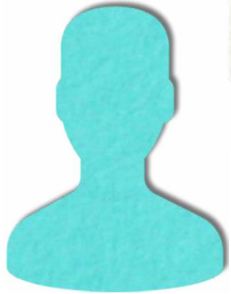
Administrative officer at Central Hospital, Ulhasnagar talking about the huge expenses, hospital spending to buy bulk medicines.



Here I get medicines at subsidised rate but that too is costly for me.

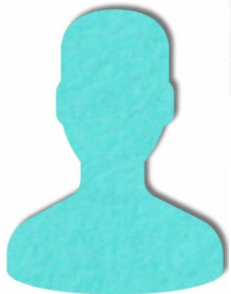
A patient at Thane Civil Hospital, telling how medicines are beyond his reach.

USER STORIES



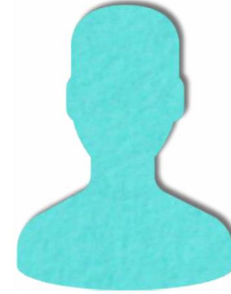
I skip medications as I can't afford both food and medicines.

A patient at K.E.M. hospital sharing how he has lack access to medicines due to poverty.



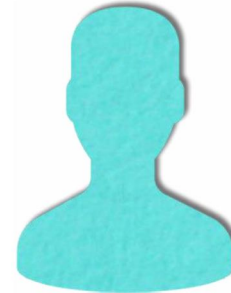
70% amount of hospital overall expenditure is being spent on buying medicines itself.

Administrative officer at Central Hospital, Ulhasnagar talking about the huge expenses, hospital spending to buy bulk medicines.



Here I get medicines at subsidised rate but that too is costly for me.

A patient at Thane Civil Hospital, telling how medicines are beyond his reach.



I feel bad when I throw unused medicines. It's such a waste of money. What about people who can't afford?

A lady talking about wastage of money spent on medicines. Also showing empathy towards underprivileged part of the society.

Observed problems

- Trashing of excessive medicines by privileged.
- Under privileged are in medical debts in order to get cured.
- Have to choose either food or medicines.
- Majorly depends upon government medical facilities.
- Can't afford medicines at subsidised rate also.
- Get rare & irregular assistance from the charitable trusts.
- Hospitals spends mere amount of overall expenditure on buying medicines itself.
- Lacks to provide other required facilities.

Insights

- Privileged people have empathy towards financially poor people and hence are willing to play a role of donor.
- Availability of free medicines to under privileged can bring a positive change.
- Hospitals could reduce overall medicine expenditure if they will accept donated medicines.

Dimensions of the problem

Dimensions of the problem

- Intangibility

Dimensions of the problem

- Intangibility
- Perishability

Dimensions of the problem

- Intangibility
- Perishability
- Inseparability

Dimensions of the problem

- Intangibility
- Perishability
- Inseparability
- Non-ownership

Dimensions of the problem

- Intangibility
- Perishability
- Inseparability
- Non-ownership
- Various stakeholders
- Multiple touchpoints
- Timely changing interactions
- Multiple places of interactions



Design Challenges

- Stockpiling and discarding has become habit
- Motivate stakeholders to contribute more often
- Keeping track of information flow and activities during journey
- Designing a safe, assured and verified system flow

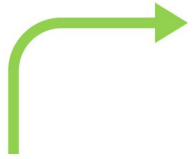
Implementation Challenges

- Persuading government officials to assure the system flow
- Replicating the system on a larger territory

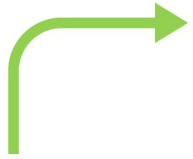
Initial overview of system



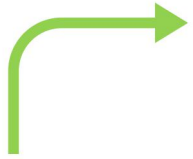
Donor



Donor



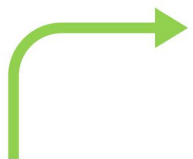
Donor



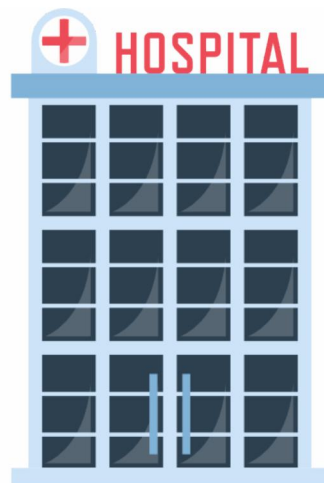
Donor



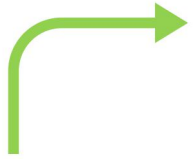
Drug disposal unit



Donor



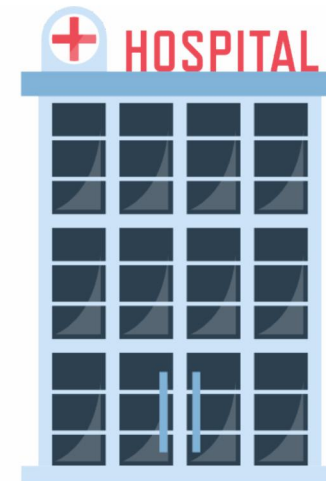
Drug disposal unit



Donor



Receivers



Drug disposal unit

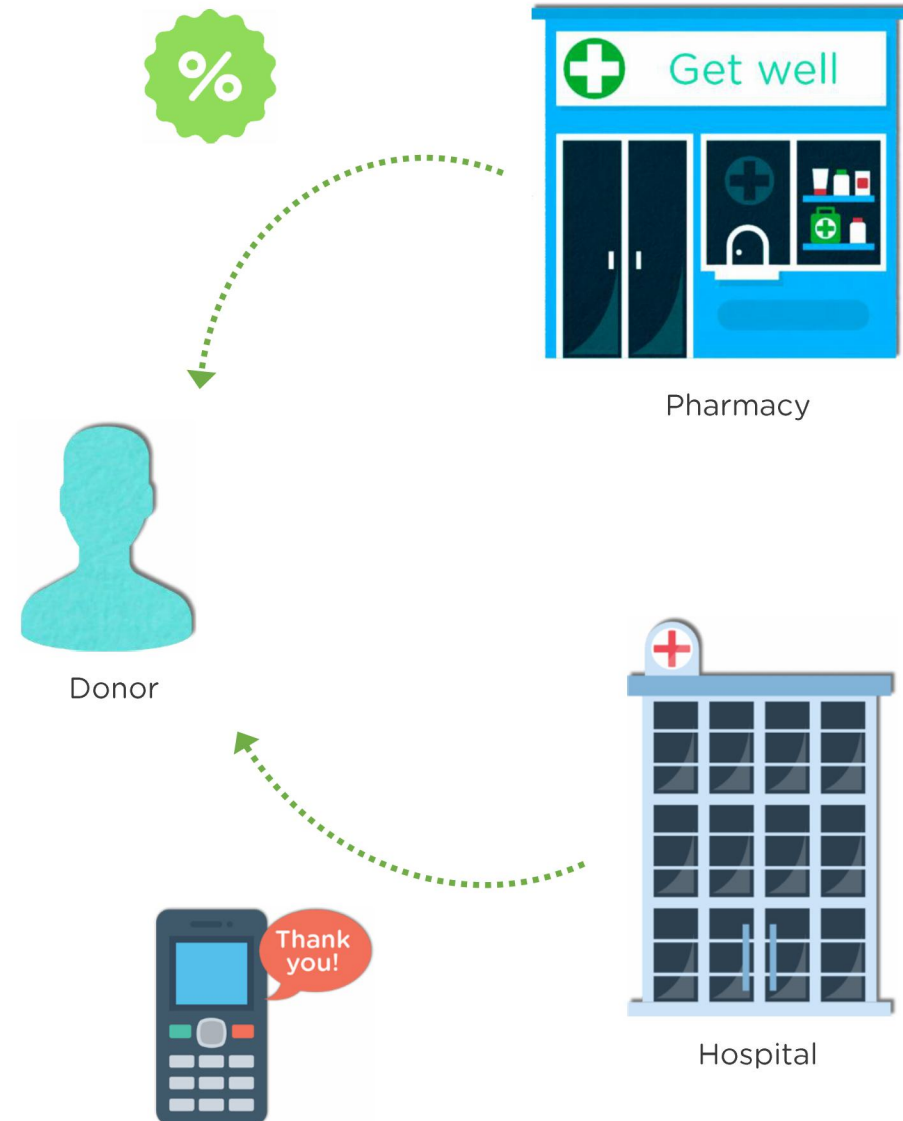
Incentive centered design

- Induce desirable behaviours from users, such as participation and cooperation and to achieve goal of the system.
- Help system benefit their users and ultimately achieve better results

Ideation

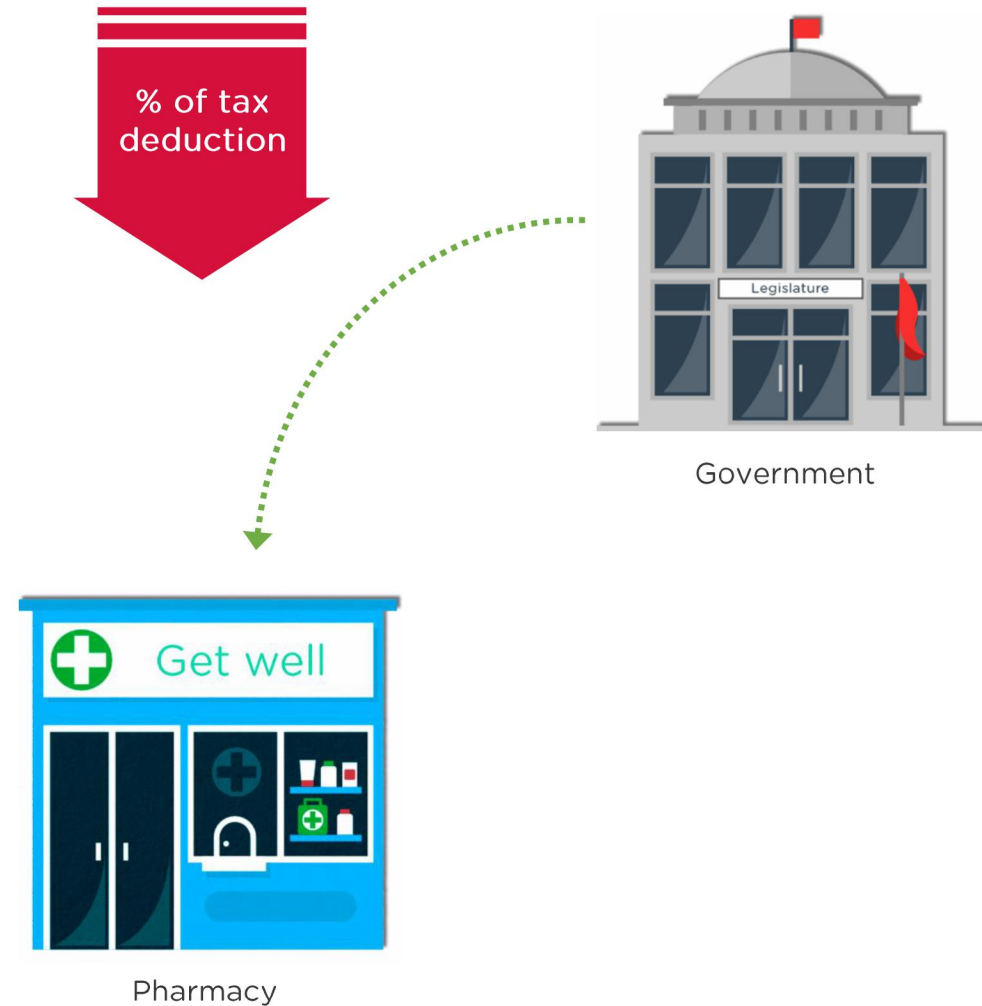
Donors

- Certain % of discount of MRP of donated medicines could be availed by donors on their next purchase at the same pharmacy where they have dropped their excessive medicines in drop box.
- when a poor hospitalised patient will receive the donated medicine, donor of that medicine will receive a SMS of gratitude which certainly give the donor a joy of helping.
- These incentives will motivate donors to contribute more often to the system.



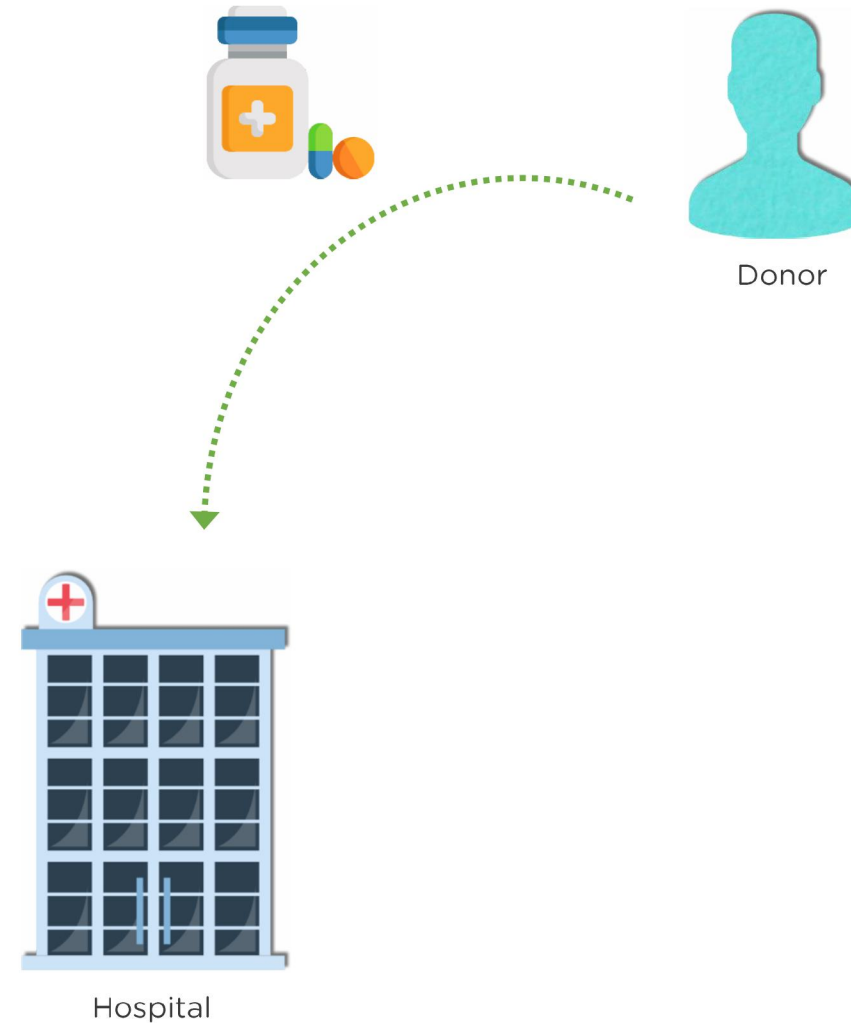
Pharmacy

- They will be playing an important role in running the system.
- Incentive will motivate them to do the same on longer run.
- The pharmacies will be able to avail certain percentage of deduction in their yearly taxes.



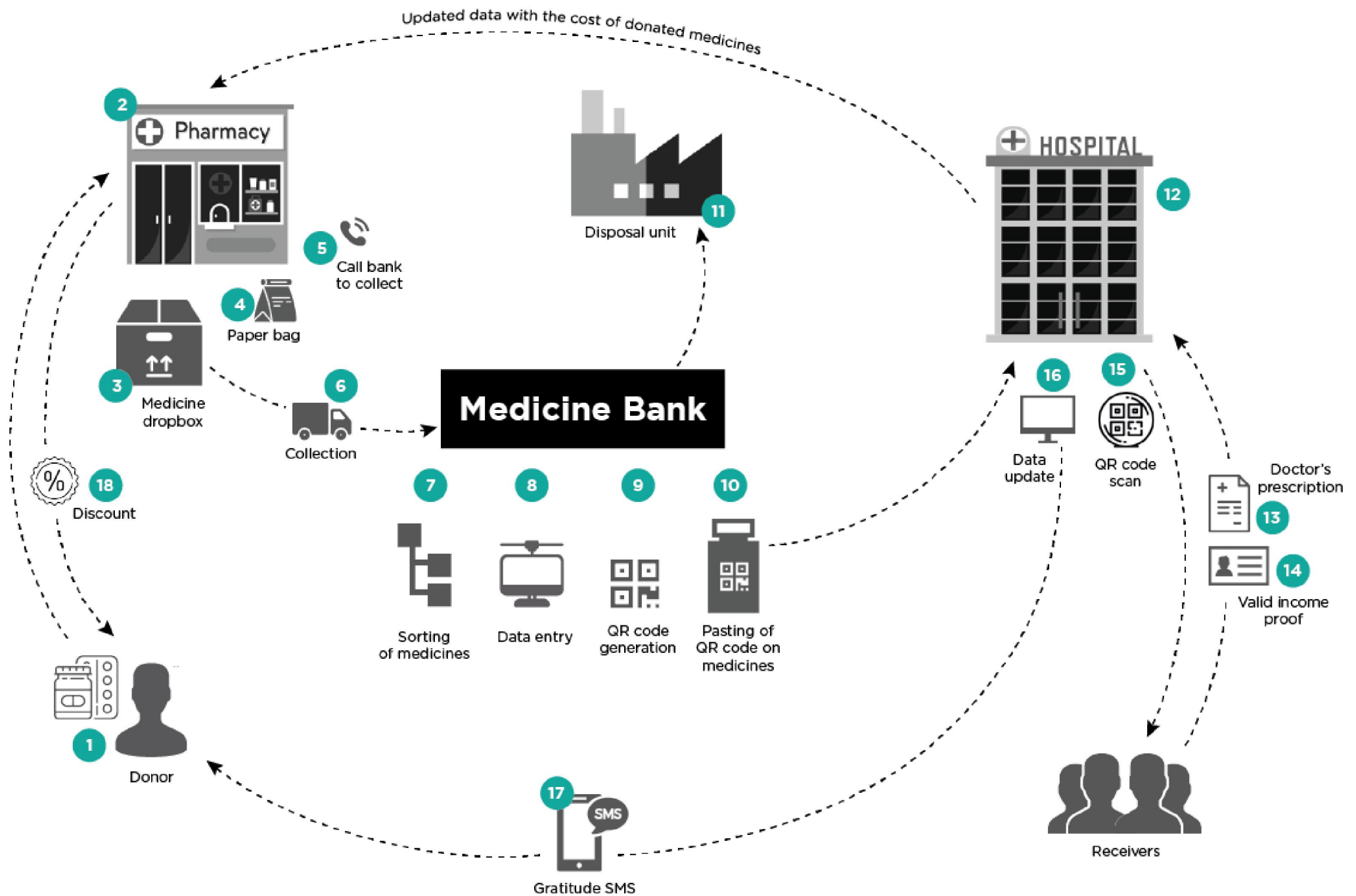
Government hospitals

- Accepting medicine donations from wealthy people and distributing them to the hospitalised patients, they can trim down huge medicine expenses at some degree which will be an incentive to the hospital in a way and will be able to cater better medical services too.



System map

The proposed system is demonstrated in the system map



Rules

- Medicines have to be kept together in a paper bag provided at the pharmacy with donors' name & contact number written over it in capital letters.
- Donors should avoid donating medicines without expiry date.
- Amount of expired medicines won't be taken into consideration while offering discount.
- Donors have to stick to same pharmacy to perform donation and to avail discounts.
- Free medicines can be availed by the needy people at the government hospital only where he or she is taking treatment. Only on showing valid income proof and prescription by an authorised medical officer working there.

Constraints & assumptions

- The system assumes that all the stakeholders will be willing to work together and will pool their resources.
- It is assumed that establishing the back end operations will be possible.
- There will be enough people, establishments and businesses that will sign up as partners.
- The thank you message might not be sent in case the donated medicines will not be required by any receiver.
- There will be enough funds available with the system to employ working staff and pay them regularly.

Final design

- out of whole proposed system, have focused on the Medicine bank.
- Final design solution will be the Graphical User Interface (GUI) of an **online record management platform** of the medicine bank.

Wireframes

Share The Spare

Administrator login

User name:

Password:

Login

[Forgot your password?](#)

New user? [Register](#)

Login Page

- After filling all required details and by clicking the login button, administrator will be redirected to the dashboard.
- If users wants to create new administrative account, they can first register themselves by clicking 'Register' link which is at bottom right corner below the login box.
- Forgot password link will assist when users are not able to recollect account password.

Share

The Spare

search

Anuja More

Dashboard

Donors

Pharmacies

Hospitals

Donations

Stock

Disposal

Dashboard

Messages (22)

Messages 3

Alerts

Updates

Calendar

Settings

3

Unread messages

19

Read messages

Anamika Ninave
Tembinaka, Thane (w.) Disposal Schedule

11:00 am

Shivalik K.
Shivaji Park, Dadar (w.) collection

10:24 am

Durjoy V.
Metadin stock update

09:48 am

Lakshmiopathy Iyer
Glycomet stock update

Yesterday 06:15 pm

Thane Civil
Requirement of Razel 50mg

Yesterday 05:30 pm

Sheetal L.
New pharmacies in Mulund (E.)

Yesterday 04:45 pm

Anamika Ninave
Bhavani Shankar, Dadar collection

Yesterday 04:00 pm

Rajesh P.
New medicine entries

Yesterday 02:44 pm

Vidhi M.
New donors, Dombivli (w.)

Yesterday 12:35 pm

Vidhi M.
New donors, Kalyan (w.)

Yesterday 12:20 pm

Shivalik K.

Yesterday 10:15 am

Shivalik K.

Shivaji Park, Dadar (West) collection

To: Anuja More

Cc: Anvay Satpute, Tina Sebastian

10:24 am

Collection area: Shivaji Park, Dadar (West)

Collection date: 12 August 2017

Collection ID	Pharmacy ID	Pharmacy name
1020	3444	Yashodeep medical Store
2155	6532	Ashapura Chemist
1679	1080	Ekdant Pharmacy
2355	2323	Surekha Medical Shop
3471	444	Rahat Medical Store
2345	980	Get Well Pharmacy
3121	504	Aayush Medical
2999	3012	Aarogya Pharmacy

All collection details with the list of medicines are in attached excel sheet.

PFA

Thanks and regards,
Shivalik Kale

Dashboard

- Administrator can have a look on received messages sent by other staff of the medicine bank, transaction updates, alerts.
- He/ she can also schedule collection, disposal dates.
- Profile settings can be changed.

Share
The Spare

search

Anuja More

Dashboard

Donors

Pharmacies

Hospitals

Donations

Stock

Disposal

Donors

210 donors

09 / 02 / 2017

Area, city

start typing...

Pharmacy

start typing...

210 donors

Name (Donor ID)	Contact Number	Pharmacy (Area)	Donation Date	Actions
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/02/2017	<div>View details</div>
Jigyasa Shah 708	8929567856	Aniruddha Medical Parvel sector 12	09/02/2017	<div>View details</div>
Anvita Dutt 1111	8452044673	Khayal Medical Store Pendse Nagar Dombivli (east)	09/02/2017	<div>View details</div>
Trupti tulsankar 0001	9619450167	Vinayak Pharmacy Mulund check Naka	09/02/2017	<div>View details</div>
Aditi Vedpathak 0304	8543679032	Alankar Medical Shivaji Chowk Kalyan (west)	09/02/2017	<div>View details</div>
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/02/2017	<div>View details</div>
Jigyasa Shah 708	8929567856	Aniruddha Medical Parvel sector 12	09/02/2017	<div>View details</div>
Anvita Dutt 1111	8452044673	Khayal Medical Store Pendse Nagar Dombivli (east)	09/02/2017	<div>View details</div>
Trupti tulsankar 0001	9619450167	Vinayak Pharmacy Mulund check Naka	09/02/2017	<div>View details</div>
Aditi Vedpathak 0304	8543679032	Alankar Medical Shivaji Chowk Kalyan (west)	09/02/2017	<div>View details</div>
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/02/2017	<div>View details</div>
Jigyasa Shah 708	8929567856	Aniruddha Medical Parvel sector 12	09/02/2017	<div>View details</div>
Anvita Dutt 1111	8452044673	Khayal Medical Store Pendse Nagar Dombivli (east)	09/02/2017	<div>View details</div>

<< < 7 8 9 10 11 > >>

Donors

1. Here administrator can access through the list of medicine donors.
2. Results can be filter by the donation date, area, pharmacy.
3. This list can be printed or mailed if needed.
4. On clicking ‘view details’ button, it will redirect the user to donor details page
5. In the same manner record of pharmacies, hospitals, donations, medicine stock in the bank, disposal of medicines can be accessed.

	Donation Date	Actions
(east)	09/02/2017	View details
	09/02/2017	View details
ivli (east)	09/02/2017	View details

Donor details

1. On clicking 'view details' button in front of the donor in the list,

Name (Donor ID)	Contact Number	Pharmacy (Area)	Donation ID
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/02/20
Jigyasa 708			09/02/20
Anvita 1111			09/02/20
Trupti 0001			09/02/20
Aditi V 0304			09/02/20
Prashant 1129			09/02/20
Jigyasa 708			09/02/20
Anvita 1111			09/02/20
Trupti 0001			09/02/20
Aditi Vedpathak 0304	8543679032	Alankar Medical Shivaji Chowk Kalyan (west)	09/02/20
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/02/20

Donor's details

Donor Id: 1129
Name: Prashant Kulkarni
Contact No. 788213667

Donation details

Pharmacy: Get well Pharmacy
Area: Tilaknagar
City: Dombivli (East)

Donation history

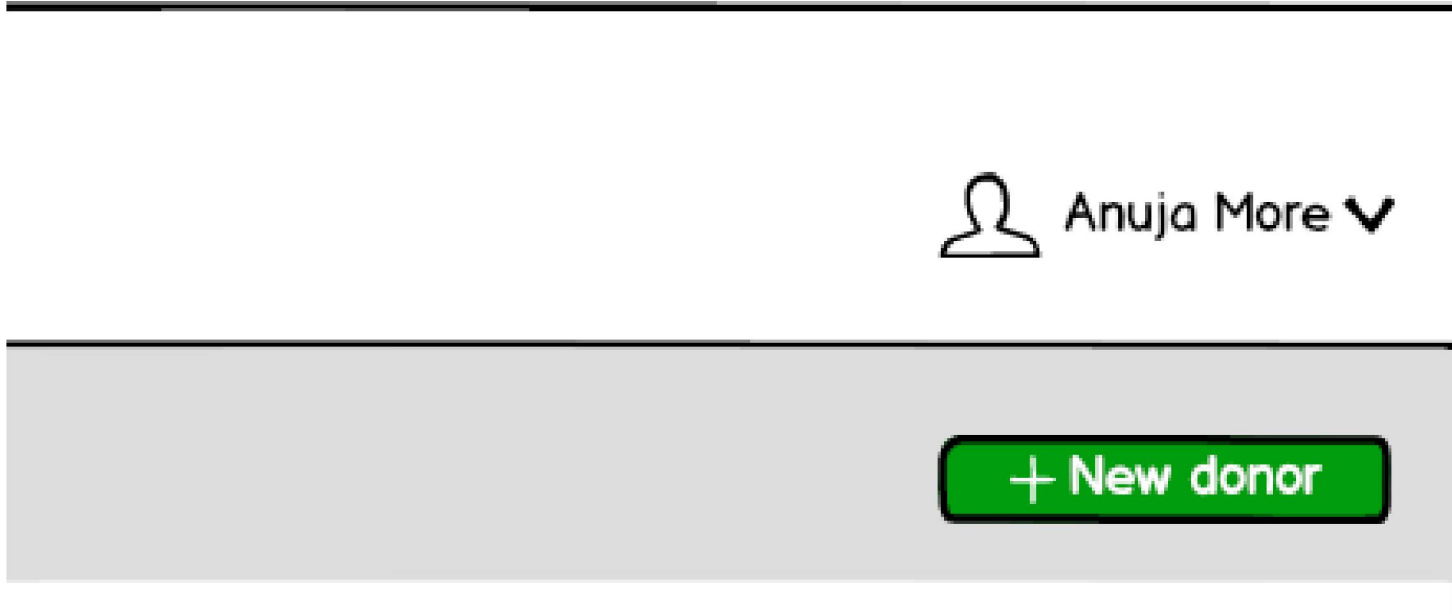
Mail

Print

Donation ID	Medicine name	Quantity	Expiry status	cost	Donation date
1211	Glycomet Galvas Met Razel	2 strips half strip 3 strips	Unexpired About to expire Unexpired	Rs.380 Rs.500 Rs.420	09/02/2017
2089	Volini Betadin	half strip 1 strip	Unexpired Unexpired	Rs.250 Rs.150	23/10/2017

Donor details

- One can get to see donors' details like contact no., donated medicines, their expiry status, medicine cost, donation date, quantity of the medicines.
- In the same manner details of pharmacies, hospitals, donations, medicine stock in the bank, disposal of medicines can be accessed.



Add new donor

1. By clicking green button at the top left side of the donors page, administrator can add new donors to the list.

Name (Donor ID)	Contact Number	Pharmacy (Area)	Donor
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/0
Jigyasa 708			09/0
Anvita 1111			09/0
Trupti 0001			09/0
Aditi V 0304			09/0
Prashant 1129			09/0
Jigyasa 708			09/0
Anvita 1111			09/0
Trupti 0001			09/0
Aditi Veerpatil 0304	8543679032	Atankar Medical Shivaji Chowk Kalyan (west)	09/0
Prashant Kulkarni 1129	788213667	Get Well Pharmacy Tilaknagar Dombivli (east)	09/0

Add new donor

Donor's name

Prashant Kulkarni

Donor ID

1129

Contact no.

788213667

Pharmacy

Get Well Pharmacy, Dombivli (E)

Donation details

Donation ID

1211

Donation date

09 / 02 / 2017

Medicine

Glycomet

Quantity

2 full strips

Expiry status

Unexpired

Cost

Rs. 380

Add medicine

Add donor

Add new donor

1. On clicking that button, a pop-up window can be seen with the necessary fields needs to be fill-up in order to feed donors details to the data server.
2. In the same manner new pharmacies, hospitals can be added to the server.

Donation ID	Disease	Status	Pharmacy (Area)
1129	Diabetes joint pain	Delivered to hospital	Get Well Pharmacy Tilaknagar Dombivli (east)

Donation 1211

Date: 09/02/2017

Donor Id: 1129

Name: Prashant Kulkarni

Contact No. 788213667

Collected from: Get well Pharmacy

Area: Tilaknagar, Dombivli (East)

Pharmacy Contact No.: 0251-2457869

Status: Delivered to Thane Civil

Donation details

Mail

Print

Medicine name	Disease	Quantity	Expiry status	cost
Glycomet	Diabetes	2 strips	Unexpired	Rs.380
Galvas Met	Diabetes	half strip	About to expire	Rs.500
Razel	Low B.P.	3 strips	Unexpired	Rs.420

Donation details

1. One can access all the details of that particular donation like, who has donated it, from where this donation has been collected, what is the delivery status, which medicines has been donated, their quantity , cost, expiry date, etc.
2. If needed these details can be printed or emailed.

125 medicines

Medicine name	Disease	Company	Expiry status
Glycomet	Diabetes	USV	Unexpired
Galvas Met	Diabetes	Novartis India	Unexpired
Betadin	Diabetes	Win-Medicare	Unexpired

X

Glycomet

Mail

Print

Company: USV Pharma

Collected from: Get well Pharmacy

Disease: Diabetes

Area: Tilaknagar, Dombivli (East)

Stock status

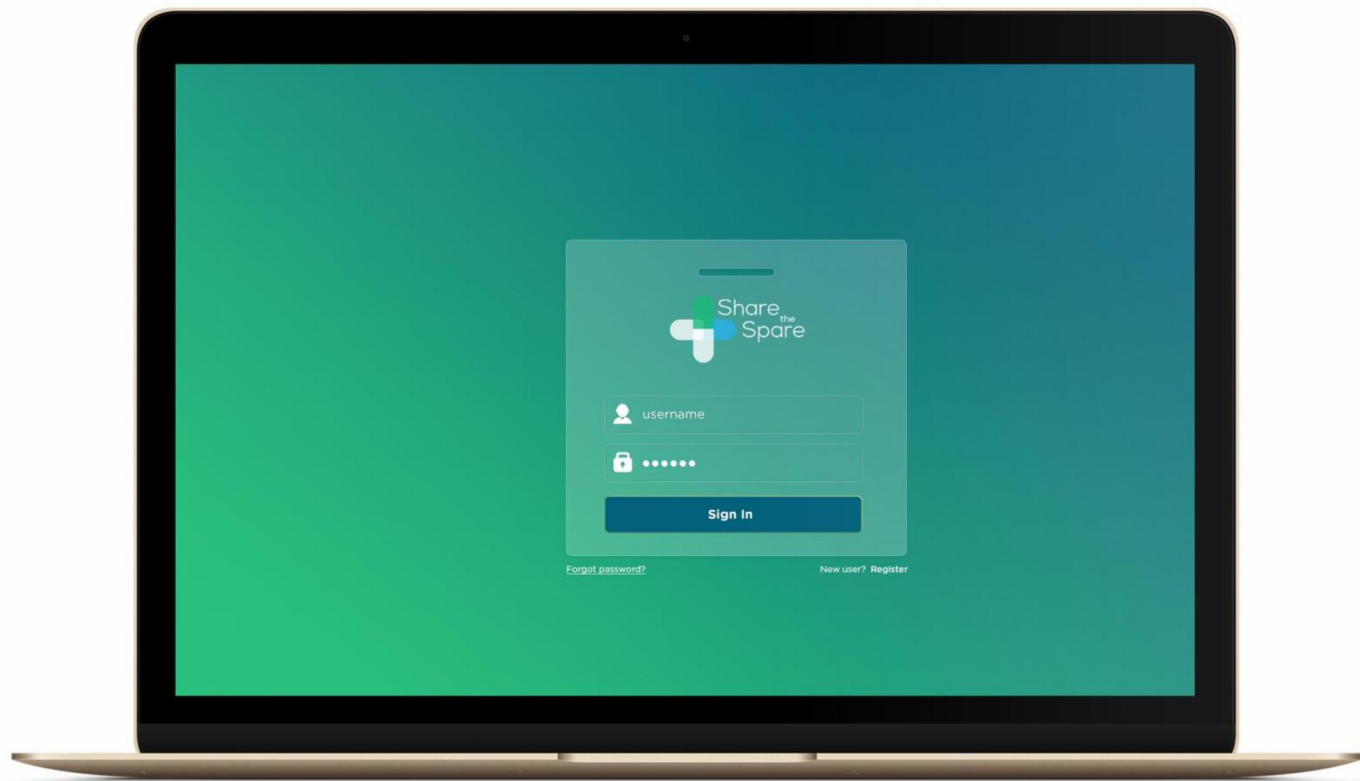
Low ————— High

Expiry status	Quantity
Unexpired	50 full strips 120 loose tablets
About to expire	12 full strips 16 half strips

Stock details

1. Details of particular medicines in stock can be accessed here, like manufacturing company, amount of medicine stock, their expiry status, etc.
2. If needed these details can be printed or emailed.

Graphical User Interface



Font: Gotham Rounded

Colours RGB value



#2aa3cf



#d5e1e0



#1fab74



Anuja M



Dashboard

Messages (22)

13 August 2017

Messages 3

Alerts

Updates

Calendar

Settings

3
Unread
messages

19
Read
messages

Anamika Ninave
Tembinaka, Thane (W.) Disposal schedule

11:00 am

Shivalik K.
Shivaji Park, Dadar (W.) collection

10:24 am

Durjoy V.
Metadin stock update

9: 48 am

Lakshmipathy Iyer
Glycomet stock update

Yesterday 6:15 pm

Thane Civil
Requirement of Razel 50mg

Yesterday 5:30 pm

Sheetal L.
New pharmacies in Mulund (E.)

Yesterday 4:45 pm

Anamika Ninave
Bhavani shankar, Dadar collection

Yesterday 4:00 pm

Rajesh P.
New medicine entries

Yesterday 2:44 pm

Vidhi M.
New donors, Dombivli (w.)

Yesterday 12:35 pm

Vidhi M.
New donors, Kalyan (W.)

Yesterday, 12:20 pm



Shivalik K.
Shivaji Park, Dadar (W.) collection

10:24 am

To: Anuja More
Cc: Anvay Satpute, Tintebastian

Collection area: Shivaji Park, Dadar (west)
Collection Date: 12 August 2017

Collecton ID	Pharmacy ID	Pharmacy Name
1020	3444	Yashodeep Medical Store
2155	6532	Ashapura Chemist
1679	1080	Ekdant Pharmacy
2355	2323	Surekha Medicine shop
3471	444	Rahat Medical store
2345	980	Get Well Pharmacy
3121	504	Aayush Medical
2999	3012	Aarogya Pharmacy

All collection details with the list of medicines are in attached excel sheet.
PFA

Thanks and regards,
Shivalik Kale



15

Anuja M ▾



Donors

< Thursday, 09 February 2017 >

[+ New donor](#)

FILTER BY

Donation date



Area, city



Pharmacy



Donor ID



210 donors

< 1 2 3 4 5 -- 10 20 >

[Mail](#)[Print](#)

DONOR ID	DONOR NAME	NUMBER	PHARMACY	DONATION DATE	ACTIONS
1129	Prashant Kulkarni	788213667	Get Well Pharmacy, Tilaknagar, Dombivli (E).	09/02/2017	View details
708	Jigyasa Shah	8929567856	Aniruddha Medical, sector 12, Panvel.	09/02/2017	View details
1111	Anvita Dutt	8459044173	Khayal Pharmacy, Pendse Nagar, Dombivli (E).	09/02/2017	View details
5005	Trupti Tulsankar	9619450167	Rahat Medical, Mulund check Naka, Mulund.	09/02/2017	View details
304	Aditi Vedpathak	8543679032	Alankar Pharmacy, Shivaji Chowk, Kalyan (W).	09/02/2017	View details
2690	Paarijat Jain	9833679021	Royal chemist, Kalachowki, Mumbai.	09/02/2017	View details
7206	Shashwat Tripathi	8734984511	Yashodeep Medical, Shivaji Park, Dadar (W).	09/02/2017	View details
3200	Roger Federer	9201639700	Pankaj Medico, D. N. Nagar, Andheri (W).	09/02/2017	View details
956	Anwesha Dasgupta	8753499944	Wellness forever, Hiranandani, Powai.	09/02/2017	View details
5661	Kirit Solanki	6961770011	Classic Medico, Sector 17, Vashi, Navi Mumbai.	09/02/2017	View details
4892	Achnit Kaur	7691450174	Family Medical Store, Padma Nagar, Borivali (W).	09/02/2017	View details
3232	Harry Potter	9831670012	Mama's Medical, Sundar Nagar, Bhandup (E).	09/02/2017	View details



Anuja M ▾



Donors

< Thursday, 09 February 2017 >

+ New donor



FILTER BY

Donation date

09 / 02 / 2017



Area, city

Start typing...



Pharmacy

Start typing...



Donor ID

Start typing...



210 donors

< 1 2 3 4 5 - 10 20 >

Mail

Print

DONOR ID	DONOR NAME	NUMBER	PHARMACY	DONATION DATE	ACTIONS
1129				09/02/2017	View details
708				09/02/2017	View details
1111				09/02/2017	View details
5005				09/02/2017	View details
304				09/02/2017	View details
2690				09/02/2017	View details
7206				09/02/2017	View details
3200				09/02/2017	View details
956	Anwasha Dasgupta	8753499944	Wellness forever, Hiranandani, Powai.	09/02/2017	View details
5661	Kirit Solanki	6961770011	Classic Medico, Sector 17, Vashi, Navi Mumbai.	09/02/2017	View details
4892	Achnit Kaur	7691450174	Family Medical Store, Padma Nagar, Borivali (W).	09/02/2017	View details
3232	Harry Potter	9831670012	Mama's Medical, Sundar Nagar, Bhandup (E).	09/02/2017	View details

Add new donor

Donor ID 1129

Name Prashant Kulkarni

Pharmacy Get Well Pharmacy

Contact No. 788213667

Area Tilaknagar, dombivli (E)

Donation details

Donation ID 1211

Donation date 09 / 02 / 2017



Medicine Glycomet

Quantity 2 full strips

Expiry status Unexpired

Cost Rs. 380

Add medicines

Add donor

Thank you!