IOT PROTOTYPE -
BLOOD CENTER MANAGEMENT
Story

This IoT prototype serves the Medical industry. Supplying hospitals with blood is very crucial as during emergencies (like disasters when lots of transfusion requests are made simultaneously) blood maybe used up fast. To save lives hospitals must have enough supply.

This prototype will try to address the following points:
1) Blood stock of Blood Bank is measured at real-time, as soon as it hits a certain point a request for blood donation can be raised.
2) Blood stock of various hospitals is monitored so the supply can be re-stocked without the need for a request being raised, this allows for no delay in blood transfusions.
3) Temperature of the fridges are monitored, so that in case of power failure or if the temperature increases it will notify and we can send signals to the fridge so that no blood is wasted.
4) We can monitor and compare hospitals blood consumptions based on the groups to be ready for future needs.
Persona

Diana
The Stock Admin

“I would like to reduce the deaths due to blood transfusion delays and ensure blood availability to hospitals at all times”

About

- Age 30, 10 years’ experience as hospital staff.
- Managing blood collections, prompt distributions of blood to hospitals.
- Validating blood usability/keeping an eye on its expiry.
- Try to get in touch with hospitals frequently to understand their emergency needs.

Main Goals

- Better management of blood supply to hospitals based on demands.
- I have to manage the stock level properly before it reaches critical level.
- Ensure no deaths due to blood unavailability.

Needs

- I always need the right blood group in enough amounts. It can be insufficient.
- I need to check if some hospital is in emergency and do we have enough stock or donation should be requested.
- I need to know the temperature of refrigerator. Currently I have no information of whether the temperature has gone above 6 degrees or if electric supply is cut.

Pain Points

- Supplying the blood becomes challenging during emergencies.
- When power cuts happen and this is not notified, blood is wasted.

Responsibilities

1) To co-ordinate with hospitals understand their demand for blood.
2) Ensure timely re-stocking of the fridges.
3) Be ready for emergencies and worst case situations to not allow for deaths due to blood unavailability.
4) See that there is no wastage of blood and donations requests are carried out when a demand is forecasted.
As a Blood Center Admin

I need a way to monitor hospital demands for blood and ensure the prompt supply to various hospitals and forecasting future needs

so that lives are not lost due to blood unavailability.

Notification when the stock goes to low and call for donations.
## UX Journey

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>Enter the blood bank</th>
<th>Check for the blood group</th>
<th>Check the stock level</th>
<th>Pay the money</th>
<th>Collect the blood pouches</th>
<th>Store the blood in the refrigerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINDSET</td>
<td>Emergency!! Blood needed</td>
<td>Do I take or matching blood group or universal</td>
<td>Is there a need to re-stock</td>
<td>Ok 1500Rs</td>
<td>Ohh! I should be careful with the blood pouches</td>
<td>I should ensure backup power supply/no leaks</td>
</tr>
<tr>
<td>FEELING</td>
<td>😊</td>
<td>😊</td>
<td>😊</td>
<td>😊</td>
<td>😊</td>
<td>😊</td>
</tr>
<tr>
<td>TOUCH POINTS</td>
<td>Blood bank fridges</td>
<td>Blood sample</td>
<td>Book Entry Stock application</td>
<td>Cashier Credit Card</td>
<td>Pouches</td>
<td>Fridge</td>
</tr>
</tbody>
</table>
Prototype

Blood Bank

BB-126394

Stock Level (All Groups)

94% 1 hour ago

Marol Maroshi Road, Andheri East, Mumbai, Maharashtra 400059

Distribution Partner: Dr. Diana Hansen

Notify

- Bhatia hospital rack 5 blood unused over 42 days
- Wockhardt A+ is almost used up
- Bank Fridge No.5 power cut
- SevenHills hospital used over 50% blood

HOSPITAL CONSUMPTION

Weekly
- Hourly
- Daily
- Monthly
- Yearly

Sensor Types