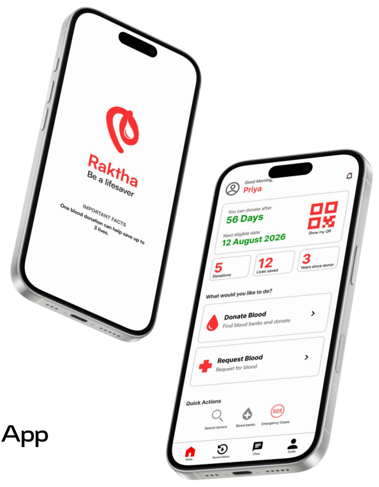
UX/UI Case Study

Raktha

Be a lifesaver

A User-Friendly Blood Donation App



Problem Statement

Blood donation during emergencies remains a fragmented and time-consuming process, with patients and hospitals often relying on personal contacts, WhatsApp groups, and social media to find compatible donors.

At the same time, willing donors lack a centralized platform to discover nearby verified blood requests, locate donation centers, track their donation history, and know when they are medically eligible to donate again. A key challenge is maintaining accurate eligibility records, as donors may donate through hospitals, blood banks, camps, or other offline channels that are not connected to the application.

This project aims to design a trustworthy, user-centered blood donation platform that enables users to easily donate or request blood, access verified and location-based services, and reliably track donation eligibility while addressing the limitations of incomplete offline donation records.

Possible Solution

The proposed solution is a centralized, user-friendly blood donation platform that enables users to seamlessly donate or request blood through verified, location-based matching while ensuring privacy through an in-app messaging system that eliminates the need to share personal phone numbers.

Beyond simplifying donor-recipient connections, the application addresses the challenge of maintaining accurate donor eligibility by allowing users to securely update donations made outside the app through a simple verification process, ensuring their donation history and next eligible donation date remain reliable even when interactions occur beyond the platform.

This creates a trustworthy ecosystem that supports both emergency blood requests and long-term donor engagement.

Target Audience

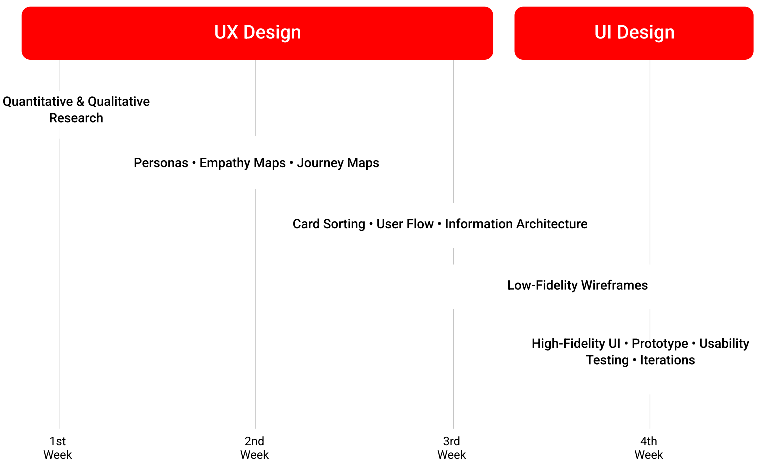
- **Voluntary blood donors** looking for a simple and reliable donation platform.
- **Patients or family members** urgently searching for compatible blood donors.
- **Verified hospitals and blood banks** managing blood requests and donations.
- **First-time and regular donors** who need guidance on donation eligibility.

Design Thinking Process

The project followed the five-stage Design Thinking framework—Empathize, Define, Ideate, Prototype, and Test. Through user research, personas, empathy maps, and journey mapping, we identified the needs of donors, requesters, and blood banks, and designed a secure, user-centered blood donation platform that simplifies blood donation and requests while accurately managing donor eligibility, even for offline donations, without compromising user privacy.

Emphatize	Define	Ideate	Design	Test
User Behavior Research Blood Donation Research User Insights Discovery Contextual User Research	Problem Statement User Personas Empathy Insights Journey Analysis	Feature Brainstorming User Flow Mapping Information Architecture	Low-Fidelity Wireframes High-Fidelity UI Interactive Prototype	Usability Evaluation Design Iterations Prototype Refinement

Project Timeline


UX Design

UI Design

Quantitative & Qualitative Research

Personas • Empathy Maps • Journey Maps

Card Sorting • User Flow • Information Architecture

Low-Fidelity Wireframes

High-Fidelity UI • Prototype • Usability Testing • Iterations

1st Week

2nd Week

3rd Week

4th Week

Empathize Phase

Qualitative Research

To understand the real challenges surrounding emergency blood donation, we conducted desk research and interviewed potential donors, patients, and family members. We explored how people currently search for blood during emergencies, their willingness to donate, the challenges in tracking donation eligibility, and concerns regarding trust, privacy, and convenience. The research focused on voluntary blood donors, emergency blood requesters, and healthcare organizations to identify gaps in the existing blood donation ecosystem.

Interview Questions

- Have you ever donated blood or arranged blood for someone during an emergency?
- If you have never donated, what has prevented you from doing so?
- How would you currently find a blood donor in an emergency?
- Do you know when you will be eligible to donate blood again?
- Have you ever donated blood through a hospital, blood bank, or donation camp?
- Would you be comfortable communicating through an in-app chat instead of sharing your phone number?
- What would encourage you to donate blood more regularly?

Key Insight Derived

- Most emergency blood searches still **rely on WhatsApp groups, phone calls, and personal contacts.**
- Many donors are **unaware of their next eligible donation** date after donating.
- Users expressed **concerns about the authenticity** of blood requests and donor privacy.
- First-time donors **require guidance and reassurance** before making their first donation.
- Donors **preferred location-based requests** and were **less willing to travel long distances.**
- Users appreciated **secure communication without revealing personal phone numbers.**

Quantitative Research

Research from healthcare studies and blood donation reports highlighted several challenges affecting voluntary blood donation. Nearly 47.2% of emergency blood requests fail to meet the recommended response time due to donor shortages and administrative delays. Around 76.5% of non-donors reported they had never donated simply because they were never asked, while 95.3% of existing donors were motivated by requests to help a specific individual. Studies also showed that mobile health applications can increase blood donation appointments by 22.7%, yet only 8.8% of existing blood donation apps include features that encourage long-term donor retention beyond basic donor directories.

Key Insight Derived

- 47.2% of emergency blood requests **experience significant delays due to donor shortages.**
- 76.5% of potential donors have **never donated because they were never personally asked.**
- 95.3% of donors are **motivated by helping** a specific patient during emergencies.
- Mobile blood donation platforms can **increase donation appointments by 22.7%.**
- Only 8.8% of existing blood donation applications **actively support donor retention.**
- Most existing platforms focus on donor discovery rather than eligibility tracking and long-term engagement.

Define Phase

User Persona

Based on our research into the current blood donation ecosystem, we identified two primary user types who represent the core audience of our application—the Blood Donor and the Blood Requester.

Jeeja

Age	40
Status	Married
Occupation	Fuel Attendant
Location	Kannur, Kerala

Personality

Empathetic Supportive
Kind-hearted

Brief Story

Jeeja is a fuel attendant who donated blood once to help her elder sister during an emergency. That experience motivated her to continue donating and helping others. She believes every blood donation can save lives and is always willing to donate again when someone is in need.

Goals

- Donate blood regularly
- Support patients quickly

Frustations

- Delays during emergencies
- Lack of verified platform
- Difficulty finding donors

Needs

- Quick donor access
- Trusted platform
- Accurate donor information
- Secure communication

Motivation

- Support people in need
- Continue donating regularly
- Turn one experience into lasting impact

Santosh

Age	45
Status	Married
Occupation	Auto Driver
Location	Kannur, Kerala

Personality

Friendly Curious
Open-minded

Brief Story

Santosh is an auto driver whose son once needed blood during a medical emergency. After struggling to find a suitable donor nearby, he realized the need for a faster and more reliable blood donation platform. He now believes timely access to nearby donors can save lives.

Goals

- Find blood quickly
- Help loved ones
- Reduce search time

Frustations

- Delays during emergencies
- Lack of verified platform
- Difficulty finding donors

Needs

- Delayed donor search
- Limited nearby donors
- Work-time constraints
- Scattered information

Motivation

- Protect loved ones
- Save valuable time
- Avoid others' struggles
- Help the community

Goals

- Help people in need
- Donate blood someday
- Find blood quickly

Jafar

Age	61
Status	Married
Occupation	Book stall owner
Location	Kannur, Kerala

Personality

Responsible Thoughtful

Practical thinker

Brief Story

Jafar is a 61-year-old bookshop owner who has never donated blood, not because he was unwilling, but because he was never asked and didn't know how the process worked. He believes helping others is important and would donate if the process were simple and trustworthy.

Frustrations

- Never asked to donate
- Unaware of the process
- Slow donor search
- Emergency delays

Needs

- Simple donation process
- Trusted platform
- Clear eligibility guidance
- Quick blood requests

Motivation

- Help the community
- Save lives
- Learn the donation process
- Support families in emergencies

Empathy Map

Says

- I rely on whatsapp communities for donations
- I felt weak after donations.
- I don't know my netx eligible donation date

Thinks

- Why an app if whatsapp is there?
- Can we get blood quickly with this app?
- Can all people use it?

Does

- He scrolls past blood donation posts on Facebook without acting on them
- He asks friends who have donated before about their experience to feel reassured

Feels

- Feels stubborn because of getting used to whatsapp communities and feeling no need to migrate to an app.
- Feel curious about the possibilities of this app.

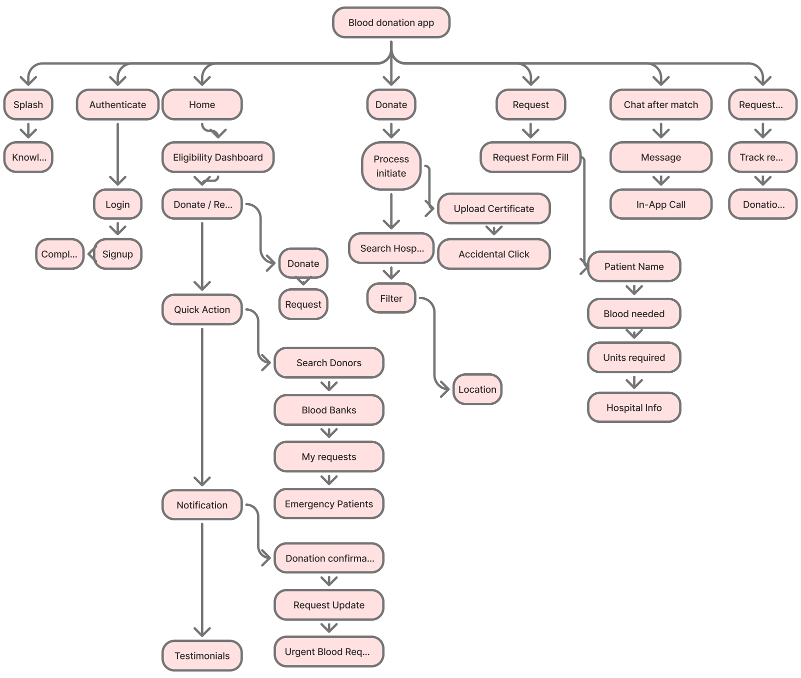
Journey Map

Stage	Action	Thoughts	Emotions	Pain points	Opportunities
Home Dashboard	Checks donation emergency	Can I donate today?	🙄	Important information may be overlooked	Prioritize eligibility and nearby requests
Find blood bank	Seaches nearby blood banks or donation camps	Where can I donate	🙂	Finding a convinient donation centre	Reccomend nearby blood banks
Confirm donation	Reviews details and proceeds to donate	Im ready to help	☺️	Uncertain about donation process	Provide guidance, directions, and preparation tips
Accept Request	Confirms participation	I'm ready to help.	☺️	Unclear next steps	Navigation and preparation guidance
Donate Blood	Visits hospital and donates	Hope everything goes well.	😌	Anxiety during donation	Pre-donation guidance and support
Receive Confirmation	Views donation confirmation	My donation made a difference.	😃	No emotional closure	Positive confirmation and appreciation
Review History	Checks donation history	When can I donate again?	🤔	Hard to track eligibility	Countdown and donation timeline
Return to App	Revisits the app later	Am I eligible again?	🤔	Long inactive periods	Eligibility reminders and nearby alerts

User Flow

Information Architecture

The information architecture was designed to organize the application's features into a simple and intuitive hierarchy, allowing Blood Donors and Blood Requesters to easily navigate between blood donations, emergency requests, eligibility tracking, donation history, and secure in-app communication.



High-fidelity Wireframes

Typography & Colors

Font Used

Satoshi

Satoshi font is a elegant and modern sans serif font. It is very neat and clean. It have more readability and variety of options. That's why I used this font.

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890

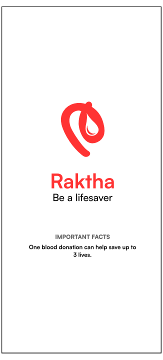
Satoshi Bold Satoshi Medium

Satoshi Regular Satoshi Light

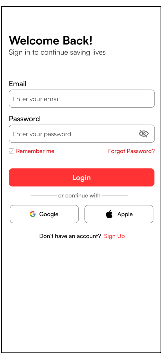
Color Used

🟥	⬜	🟨	⬜	🟩
Primary Color #FF0000	Secondary Color #FFFFFF	Accent Color #FFC100	BG Color #F7F7F7	Success Color #51B461

Visual Design


Raktha
Be a lifesaver

IMPORTANT FACTS
One blood donation can help save up to 3 lives.


Welcome Back!
Sign in to continue saving lives

Email
Enter your email

Password
Enter your password

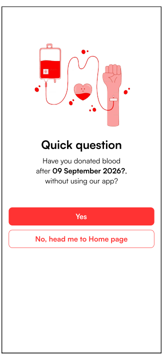
☑ Remember me
Forgot Password?

Login

or continue with

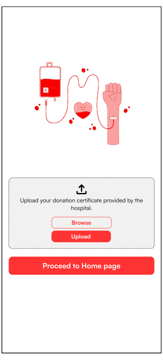
Google
Apple

Don't have an account? Sign Up


Quick question
Have you donated blood after **09 September 2026?**, without using our app?

Yes

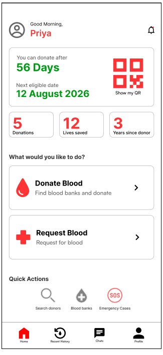
No, head me to Home page


Upload your donation certificate provided by the hospital.

Browse

Upload

Proceed to Home page


Good Morning,
Priya

You can donate after
56 Days
Next eligible date
12 August 2026
Show my QR

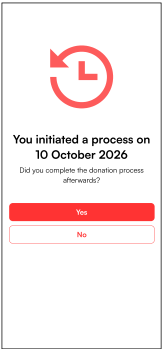
5 Donations | **12** Lives saved | **3** Years since donor

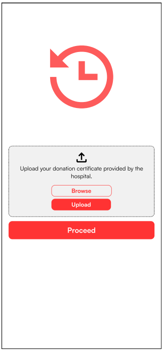
What would you like to do?

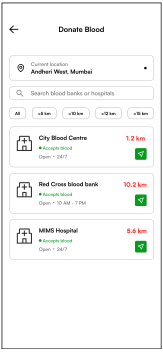
Donate Blood
Find blood banks and donate

Request Blood
Request for blood

Quick Actions


You initiated a process on 10 October 2026
Did you complete the donation process afterwards?


Upload your donation certificate provided by the hospital.


Donate Blood

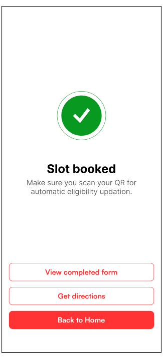
Current location
Andheri West, Mumbai

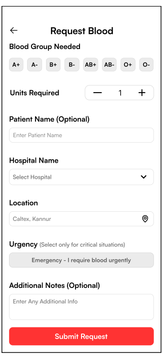
Search blood banks or hospitals

City Blood Centre — 1.2 km
● Accepts blood
Open • 24/7

Red Cross blood bank — 10.2 km
● Accepts blood
Open • 10 AM - 7 PM

MIMS Hospital — 5.6 km
● Accepts blood
Open • 24/7


Slot booked
Make sure you scan your QR for automatic eligibility updation.


Request Blood

Blood Group Needed

Units Required: — 1 +

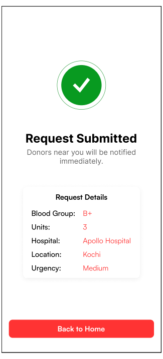
Patient Name (Optional)
Enter Patient Name

Hospital Name
Select Hospital

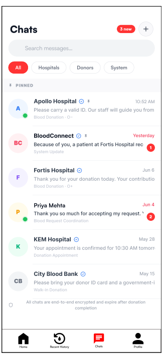
Location
Caltex, Kannur

Urgency (Select only for critical situations)
Emergency - I require blood urgently

Additional Notes (Optional)
Enter Any Additional Info


Request Submitted
Donors near you will be notified immediately.

Request Details
Blood Group: B+
Units: 3
Hospital: Apollo Hospital
Location: Kochi
Urgency: Medium


Chats — 3 new

Search messages...

PINNED

Apollo Hospital — 10:52 AM
Please carry a valid ID. Our staff will guide you from
Blood Donation · O−

BloodConnect — Yesterday
Because of you, a patient at Fortis Hospital rec
System Update

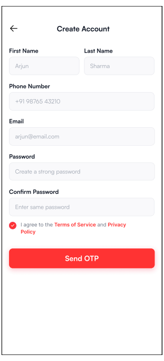
Fortis Hospital — Jun 6
Thank you for your donation today. Your contributio
Blood Donation · O+

Priya Mehta — Jun 4
Thank you so much for accepting my request. '
Blood Request Coordination

KEM Hospital — May 28
Your appointment is confirmed for 10:30 AM tomorr
Donation Appointment

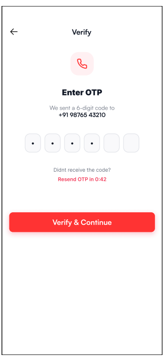
City Blood Bank — May 15
Please bring your donor ID card and a government-i
Walk-in Donation

All chats are end-to-end encrypted and expire after donation completion


Create Account

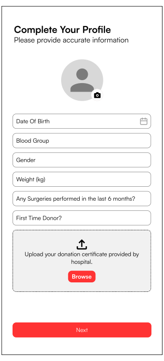
First Name: Arjun
Last Name: Sharma
Phone Number: +91 98765 43210
Email: arjun@email.com
Password: Create a strong password
Confirm Password: Enter same password

I agree to the Terms of Service and Privacy Policy


Verify

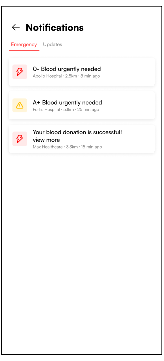
Enter OTP
We sent a 6-digit code to
+91 98765 43210

Didnt receive the code?
Resend OTP in 0:42


Complete Your Profile
Please provide accurate information

Date Of Birth
Blood Group
Gender
Weight (kg)
Any Surgeries performed in the last 6 months?
First Time Donor?

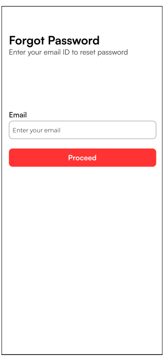
Upload your donation certificate provided by hospital.


Notifications

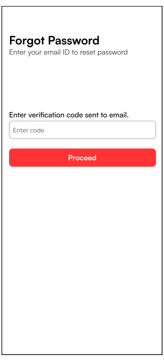
O- Blood urgently needed
Apollo Hospital · 2.5km · 8 min ago

A+ Blood urgently needed
Fortis Hospital · 5.1km · 25 min ago

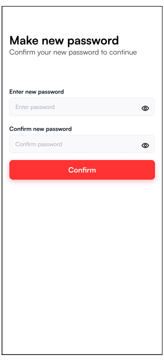
Your blood donation is successful! view more
Max Healthcare · 3.3km · 15 min ago


Forgot Password
Enter your email ID to reset password

Email
Enter your email

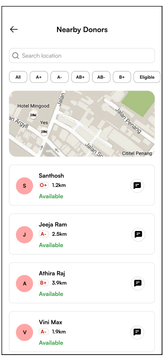

Forgot Password
Enter your email ID to reset password

Enter verification code sent to email.
Enter code


Make new password
Confirm your new password to continue

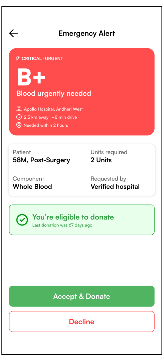
Enter new password
Enter password

Confirm new password
Confirm password


Nearby Donors

Search location

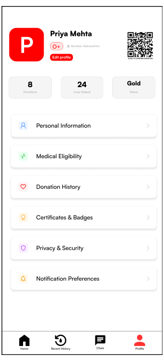
Santhosh — O+ 1.2km — Available
Jeeja Ram — A- 2.5km — Available
Athira Raj — B+ 3.9km — Available
Vini Max — A- 1.9km — Available


Emergency Alert

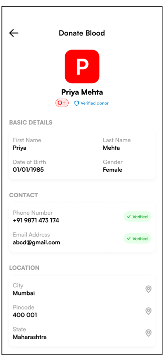
CRITICAL · URGENT
B+
Blood urgently needed
Apollo Hospital, Andheri West
2.3 km away · ~8 min drive
Needed within 2 hours

Patient: 58M, Post-Surgery
Units required: 2 Units
Component: Whole Blood
Requested by: Verified hospital

You're eligible to donate
Last donation was 67 days ago


Priya Mehta
O+ Mumbai, Maharashtra
Edit profile

8 Donations | **24** Lives Helped | **Gold** Status

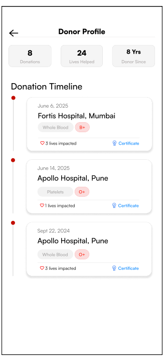

Donate Blood

Priya Mehta
O+ Verified donor

BASIC DETAILS
First Name: Priya
Last Name: Mehta
Date of Birth: 01/01/1985
Gender: Female

CONTACT
Phone Number: +91 9871 473 174 ✓ Verified
Email Address: abcd@gmail.com ✓ Verified

LOCATION
City: Mumbai
Pincode: 400 001
State: Maharashtra


Donor Profile

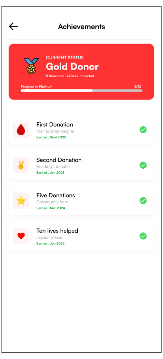
8 Donations | **24** Lives Helped | **8 Yrs** Donor Since

Donation Timeline

June 6, 2025
Fortis Hospital, Mumbai
Whole Blood · B+
3 lives impacted · Certificate

June 14, 2025
Apollo Hospital, Pune
Platelets · O+
1 lives impacted · Certificate

Sept 22, 2024
Apollo Hospital, Pune
Whole Blood · O+
3 lives impacted · Certificate


Achievements

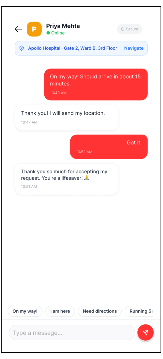
CURRENT STATUS
Gold Donor
8 donations . 24 lives impacted
Progress to Platinum 8/12

First Donation ✓
Your journey begins
Earned . Sept 2022

Second Donation ✓
Building the habit
Earned . Jan 2023

Five Donations ✓
Community hero
Earned . Mar 2024

Ten lives helped ✓
Impact maker
Earned . Jun 2025


Priya Mehta
● Online — Secure

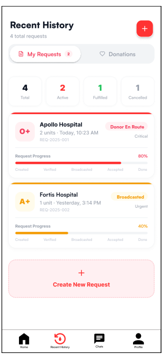
Apollo Hospital · Gate 2, Ward B, 3rd Floor — Navigate

On my way! Should arrive in about 15 minutes.
10:49 AM

Thank you! I will send my location.
10:47 AM

Got it!
10:52 AM

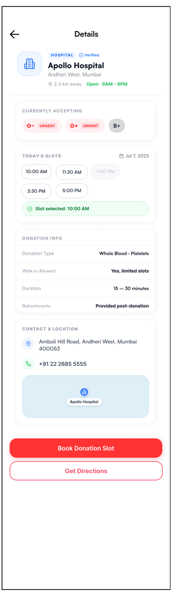
Thank you so much for accepting my request. You're a lifesaver! 🙏
10:51 AM


Recent History
4 total requests

4 Total | **2** Active | **1** Fulfilled | **1** Cancelled

Apollo Hospital — O+ — Donor En Route
2 units · Today, 10:23 AM — Critical
REQ-2025-001
Request Progress 80%
Created · Verified · Broadcasted · Accepted · Done

Fortis Hospital — A+ — Broadcasted
1 unit · Yesterday, 3:14 PM — Urgent
REQ-2025-002
Request Progress 40%
Created · Verified · Broadcasted · Accepted · Done


Details

HOSPITAL · Verified
Apollo Hospital
Andheri West, Mumbai
2.3 km away · Open · 8AM – 8PM

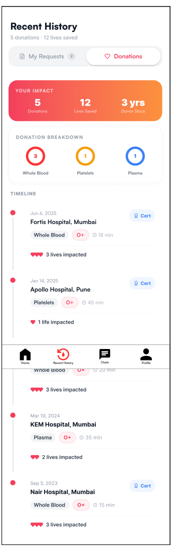
CURRENTLY ACCEPTING
O− URGENT · O+ URGENT · B+

TODAY'S SLOTS — Jul 7, 2025
10:00 AM · 11:30 AM · ~~1:00 PM~~ · 3:30 PM · 5:00 PM
Slot selected: 10:00 AM

DONATION INFO

Donation Type	Whole Blood · Platelets
Walk-in Allowed	Yes, limited slots
Duration	15 — 30 minutes
Refreshments	Provided post-donation

CONTACT & LOCATION
Amboli Hill Road, Andheri West, Mumbai 400053
+91 22 2685 5555
Apollo Hospital


Recent History
5 donations · 12 lives saved

YOUR IMPACT
5 Donations | **12** Lives Saved | **3 yrs** Donor Since

DONATION BREAKDOWN
3 Whole Blood | 1 Platelets | 1 Plasma

TIMELINE

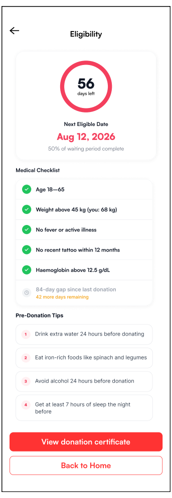
Jun 6, 2025 — Cert
Fortis Hospital, Mumbai
Whole Blood · O+ · 18 min
3 lives impacted

Jan 14, 2025 — Cert
Apollo Hospital, Pune
Platelets · O+ · 45 min
1 life impacted

Whole Blood · O+ · 20 min
3 lives impacted

Mar 10, 2024
KEM Hospital, Mumbai
Plasma · O+ · 35 min
2 lives impacted

Sep 5, 2023 — Cert
Nair Hospital, Mumbai
Whole Blood · O+ · 15 min
3 lives impacted


Eligibility

56 days left
Next Eligible Date
Aug 12, 2026
50% of waiting period complete

Medical Checklist
- ✓ Age 18—65
- ✓ Weight above 45 kg (you: 68 kg)
- ✓ No fever or active illness
- ✓ No recent tattoo within 12 months
- ✓ Haemoglobin above 12.5 g/dL
- 84-day gap since last donation — 42 more days remaining

Pre-Donation Tips
1. Drink extra water 24 hours before donating
2. Eat iron-rich foods like spinach and legumes
3. Avoid alcohol 24 hours before donation
4. Get at least 7 hours of sleep the night before